

# MEDICAL REPORTS

FOR THE

HALF YEAR ENDED 30<sup>TH</sup> SEPTEMBER 1872;

FORWARDED BY THE SURGEONS TO THE CUSTOMS AT THE  
TREATY PORTS IN CHINA;

BEING No. 4 OF THE SERIES,

AND

FORMING THE SIXTH PART OF THE

## CUSTOMS GAZETTE

FOR

JULY-SEPTEMBER, 1872.

---

PUBLISHED BY ORDER OF

**The Inspector General of Customs.**

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SHANGHAI:

PRINTED AT THE CUSTOMS PRESS.

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# **National Oceanic and Atmospheric Administration**

## **Environmental Data Rescue Program**

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December 20, 2000

INSPECTOR GENERAL'S Circular No. 19 of 1870.

INSPECTORATE GENERAL OF CUSTOMS,  
PEKING, 31st December, 1870.

SIR,

1.—It has been suggested to me that it would be well to take advantage of the circumstances in which the Customs Establishment is placed to procure information with regard to disease amongst foreigners and natives in China; and I have, in consequence, come to the resolution of publishing half-yearly in collected form all that may be obtainable. If carried out to the extent hoped for, the scheme may prove highly useful to the medical profession both in China and at home, and to the public generally. I therefore look with confidence to the co-operation of the Customs Medical Officer at your port, and rely on his assisting me in this matter by framing a half-yearly report containing the result of his observation at.....upon the local peculiarities of disease, and upon diseases rarely or never encountered out of China. The facts brought forward and the opinions expressed will be arranged and published either with or without the name of the physician responsible for them, just as he may desire.

2.—The suggestions of the Customs Medical Officers at the various ports as to the points which it would be well to have especially elucidated, will be of great value in the framing of a form which will save trouble to those members of the Medical profession, whether connected with the Customs or not, who will join in carrying out the plan proposed. Meanwhile I would particularly invite attention to—

a.—The general health of.....during the period reported on; the death rate amongst foreigners; and, as far as possible, a classification of the causes of death.

b.—Diseases prevalent at.....

c.—General type of disease; peculiarities and complications encountered; special treatment demanded.

d.—Relation of disease to { Season.  
Alteration in local conditions—such as drainage, &c.  
Alteration in climatic conditions.

e.—Peculiar diseases; especially leprosy.

f.—Epidemics { Absence or presence.  
Causes.  
Course and treatment.  
Fatality.

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to, will serve to fix the general scope of the undertaking. I have committed to Dr. R. ALEX. JAMIESON, of Shanghai, the charge of arranging the reports for publication, so that they may be made available in a convenient form.

3.—Considering the number of places at which the Customs Inspectorate has established offices,—the thousands of miles north and south and east and west over which these offices are scattered,—the varieties of climate,—and the peculiar conditions to which, under such different circumstances, life and health are subjected, I believe the Inspectorate, aided by its Medical Officers, can do good service in the general interest in the direction indicated, and, as already stated, I rely with confidence on the support and assistance of the Medical Officer at each port in the furtherance and perfecting of this scheme. You will hand a copy of this Circular to Dr.....and request him, in my name, to hand to you in future, for transmission to myself, half-yearly reports of the kind required, for the half-years ending 31st March and 30th September—that is, for the Winter and Summer seasons.

4.—That the Medical Officer at your port may know who are the other members of the profession with whom he is invited to join in this work, I append a list of the officers at each port or place.

Peking,.....	Dr. J. DUDGEON.
Newchwang,.....	Dr. J. WATSON.
Tientsin, .....	Dr. J. FRAZER.
Chefoo,.....	Dr. CARMICHAEL (a) and Dr. MYERS.
Hankow, .....	Dr. A. G. REID.
Kiukiang,.....	Dr. G. SHEARER.
Chinkiang, .....	_____
Shanghai,.....	Dr. BARTON, (b) and Dr. GALLE.
Ningpo, .....	Dr. R. MEADOWS (c).
Foochow, .....	Dr. J. M. BEAUMONT.
„ Pagoda Anchorage,	Dr. SOMERVILLE, and Dr. SHERWIN (a).
Amoy, .....	Dr. JONES (a) and Dr. MÜLLER.
Tamsui, .....	Dr. L. H. FRANKLYN.
Takow, .....	Dr. P. MANSON (d).
Swatow, .....	Dr. SCOTT.
Canton, .....	Dr. F. WONG.
„ Whampoa, .....	Dr. R. SHILLITOE (b).

I am, &c.,

(signed)

ROBERT HART,

I. G.

THE COMMISSIONERS OF CUSTOMS.—*Newchwang, Ningpo,*  
*Tientsin, Foochow,*  
*Chefoo, Amoy,*  
*Hankow, Tamsui,*  
*Kiukiang, Takow,*  
*Chinkiang, Swatow, and*  
*Shanghai, Canton.*

(a) Absent. (b) Resigned. (c) Resigned, and succeeded by Dr. MACKENZIE. (d) Resigned, and succeeded by Dr. D. MANSON.

SHANGHAI, 1st April, 1873.

SIR,

IN accordance with the directions of your despatch No. 6 A (Returns Series) of the 24th June 1871, I now forward to the Returns Department of the Shanghai Office the following documents:—

- A.—Report on the Health of Amoy, pp. 7-23;
- B.—Report on the Health of Takow and Taiwan-foo, pp. 24-26;
- C.—Report on the Health of Newchwang, pp. 27-28; each of these three Reports relating to the April-September half year (1872).
- D.—Report on the Physical Conditions of Peking, (*Second Part*) pp. 29-42;
- E.—Report on the Health of Kinkiang for the year 1872, pp. 43-55;
- F.—Report on the Health of Foochow (Pagoda Anchorage), pp. 56-67;
- G.—Report on the Health of Canton, pp. 68-71;
- H.—Report on the Health of Hankow, pp. 72-85;
- J.—Report on the Health of Swatow, pp. 86-91;
- K.—Report on the Health of Shanghai, pp. 92-105; each of these five Reports relating to the April-September half year (1872).

I much regret the delay which has occurred in the publication of this volume. It is due in some measure to the facts that many of the manuscripts arrived late, and that there was a crush of work in the Printing Office, but chiefly to illness and consequent inability on my part to prepare the reports for publication, to write my own contribution and to revise the proofs. If however the gentlemen whose valuable papers now appear will bear the postponement patiently, little harm will have been done.

I have the honour to be,

SIR,

Your obedient Servant,

R. ALEX. JAMIESON.

THE INSPECTOR GENERAL OF CUSTOMS,  
*Peking.*

The Contributors to this Volume are—

AUG. MÜLLER, M.D.,.....	} Amoy.
P. MANSON, M.D., M. CH.,.....	
D. MANSON, M.D., M. CH., .....	Takow and Taiwan-foo.
J. WATSON, M.D., L.R.C.S.E., .....	Newchwang.
J. DUDGEON, M.D., M. CH., .....	Peking.
G. SHEARER, M.D., L.R.C.S.E., .....	Kiukiang.
J. R. SOMERVILLE, M.D., F.R.C.S.E., .....	Pagoda Anchorage, Foochow.
F. WONG, M.D., L.R.C.S.E., .....	Canton.
A. G. REID, M.D., F.R.C.S.E., .....	Hankow.
E. I. SCOTT, L.R.C.S.I.,.....	Swatow.
R. ALEX. JAMIESON, M.A., M.D., M.R.C.S., F.R.G.S.,	Shanghai.

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**A.—DRS. MÜLLER and MANSON'S Report on the Health of Amoy for the half year ended 30th September, 1872.**

THE past summer has been made memorable in the medical annals of Amoy, by the occurrence of a severe epidemic of dengue fever, of which a detailed account will be given below. With this exception, the last six months may be considered very healthy, both as regards European residents and the floating population.

The temperature was not above the average of our summers; the rainfall was perhaps slightly below, particularly during April which is generally rather a rainy month with us.

TABLE of Temperatures from 1st April 1872, to 30th September 1872.

MONTH.	MAX.	AVERAGE MAX.	MIN.	AVERAGE MIN.	MEAN.	DAYS OF RAINFALL.
April, .....	79°	72.5°	62°	67.0°	69.8°	2
May, .....	82°	76.3°	65°	72.1°	74.0°	13
June, .....	89°	82.3°	72°	77.5°	78.9°	17
July, .....	89°	87.2°	80°	82.3°	84.7°	3
August, .....	92°	87.5°	73°	86.5°	82.0°	9
September, .....	90°	82.5°	73°	76.4°	79.4°	5

The annexed list of cases of disease amongst the floating population shows nothing particularly worthy of notice, with the exception of the epidemic of dengue. Intermittent fever, enthetic diseases and diarrhoea, in the order mentioned, furnish as usual the greatest contingent of cases. The remaining ailments were generally of a very trifling character.

From the 1st of April to the 30th of September there entered this port 141 sailing vessels, with crews consisting of 1,053 Europeans, 437 Malays and 205 Chinese, giving an average of nearly 12 men as the crew of each vessel. The total number of days these were under observation was 1,808, giving an average stay of nearly 13 days to each vessel. The total number of cases treated was 329, of which 95 were cases of dengue. 100 cases were sick on arrival, leaving 229 cases of sickness acquired in port.

LIST of Cases of Disease occurring among the floating population from 1st April to 1st October, 1872.

- |   |   |
|---|---|
| <p>1.—<i>Miasmatic Diseases.</i></p> <p>4 cases of febricula.</p> <p>44 „ „ intermittent fever.</p> <p>1 „ „ remittent fever.</p> <p>1 „ „ typhoid fever (imported).</p> <p>95 „ „ dengue.</p> <p>2.—<i>Enthetic Diseases.</i></p> <p>26 cases of gonorrhœa.</p> <p>6 „ „ primary venereal sore.</p> <p>28 „ „ constitutional syphilis.</p> <p>3.—<i>Diseases of the Digestive Organs.</i></p> <p>27 cases of diarrhœa.</p> <p>4 „ „ chronic dysentery (imported).</p> <p>4 „ „ bilious catarrh and congestion of liver.</p> <p>2 „ „ hernia.</p> | <p>5 cases of dyspepsia.</p> <p>3 „ „ sore throat.</p> <p>6 „ „ hæmorrhoids.</p> <p>1 „ „ enteritis &amp; perforation of gut.</p> <p>4.—<i>Diseases of the Circulatory and Respiratory Organs.</i></p> <p>3 cases of phthisis.</p> <p>1 „ „ heart disease.</p> <p>1 „ „ varicocele.</p> <p>5.—<i>Diathetic Diseases.</i></p> <p>6 cases of rheumatism (mostly chronic).</p> <p>6.—<i>Diseases of the Generative Organs.</i></p> <p>2 cases of phymosis.</p> <p>2 „ „ stricture of urethra.</p> <p>1 „ „ spermatorrhœa.</p> <p>1 „ „ disease of bladder.</p> |
|---|---|



7.—*Diseases of the Integuments.*

- 4 cases of whitlow.
- 7 " " boils.
- 3 " " *ecthyma tropica*.
- 7 " " ulcers of the leg.

8.—*Diseases of the Eye.*

- 6 cases of conjunctivitis.
- 6 " " purulent ophthalmia.
- 2 " " ulcers of the cornea.
- 2 " " hemeralopia (night blindness).

9.—*Accidents.*

- 7 cases of bruises and contusions.

2 cases of falls. One of these was fatal; the other had concussion of the spine and slight hemiplegia; the case recovered perfectly.

10.—*Other Diseases.*

- 4 cases of otitis.
- 2 " " tapeworm.
- 1 " " synovitis of knee.
- 3 " " abscess of hand.
- 2 " " sympathetic bubo.
- 3 " " adenitis.
- 2 " " epilepsy.

The fatal case of enteritis and perforation of the gut occurred on July 14th. As it presents several features of interest we venture to give a brief account of it.

J. J.; æt. 32; an engineer of one of the coast steamers, a large, powerfully built man, about four or five years in China; had not unfrequently suffered from bilious catarrh following errors of diet. Last year he was under our care for a very severe attack of colic, from which he recovered perfectly in less than ten days. From that time, with the exception of an attack of hæmorrhoids and a few trifling ailments, he enjoyed moderately good health until the date of his last illness. Two days before admission to our hospital he had been working hard in the engine-room, and thoroughly tired out and wet through with perspiration, he had laid down in his berth without changing his clothes, before an open port provided with a wind catch just on a level with his abdomen. Falling asleep he awoke after several hours with frightful pains in the belly, from which he endeavoured to get relief by taking at intervals about a dozen pills of some sort, (probably Cocker's) but without effect. About 24 hours after this he arrived in Amoy, and at once sent for us. When we took him into hospital he was suffering from strong colicky pains, with no pain or tenderness on pressure, pulse 85, skin perspiring, cool and soft. A couple of castor oil, opium and starch injections relieved him effectually within a few hours of their administration, producing several copious evacuations, and by the evening all pain had nearly left him; this was July 11th. On July 12th, 9 A.M., we note,—“Spent a tolerable night; free from pain on pressure or percussion, only he complains of a feeling of soreness in the epigastrium. Slight nausea, complete anorexia. Ordered an effervescent draught and to sip iced water. Diet, beef tea and milk in small quantities and at frequent intervals. July 13th, 9 A.M.—Had a very good night's rest. Condition very much the same as yesterday. Nausea slightly relieved, takes beef tea and milk in moderate quantity. Bowels not been moved since the night before last. Continue diet and effervescent draught. July 14th, 9.50 A.M.—Had a good night's rest, pulse 90, skin cool and moist; expressed himself as feeling much better and anxious to go to work again. No pain on pressure or percussion of abdomen. Bowels still confined; gave a seidlitz powder which acted in about an hour. Still complains of a feeling of soreness of epigastrium and slight nausea. Takes iced drinks frequently, and beef tea and milk fairly well. 2 P.M., felt very sick, vomited a huge quantity of bile, retching violently afterwards, bringing up small quantities of bile. About 3 P.M., after a severe fit of retching, suddenly fell back in his bed collapsed, a sudden faintness seemed to come over him; eyes wild and staring; could answer questions only by signs; rapidly became unconscious, with a pulse of about 140, small and threadlike, and the skin intensely hot and dry. Insensibility gradually deepened, and the patient died about 6.30 P.M. the same day, without recovering consciousness.”

*Postmortem* examination 12 hours after death. Body strong, well nourished, with abundance of adipose tissue. Contents of cranium and thorax perfectly normal, with exception of perhaps a slight degree of injection of pia mater. On opening the abdomen the peritoneal fluid was stained with bile, the colouring being evidently derived from a rent in the duodenum, far back near the pancreas. On opening the gut, the whole of the duodenum and upper part of jejunum were found inflamed, the mucous membrane swollen, sodden, discoloured, and in parts eroded. In the neighbourhood of the rent the gut was so soft as scarcely to bear handling, and around the rent very much thinned. The rent was situated about the middle

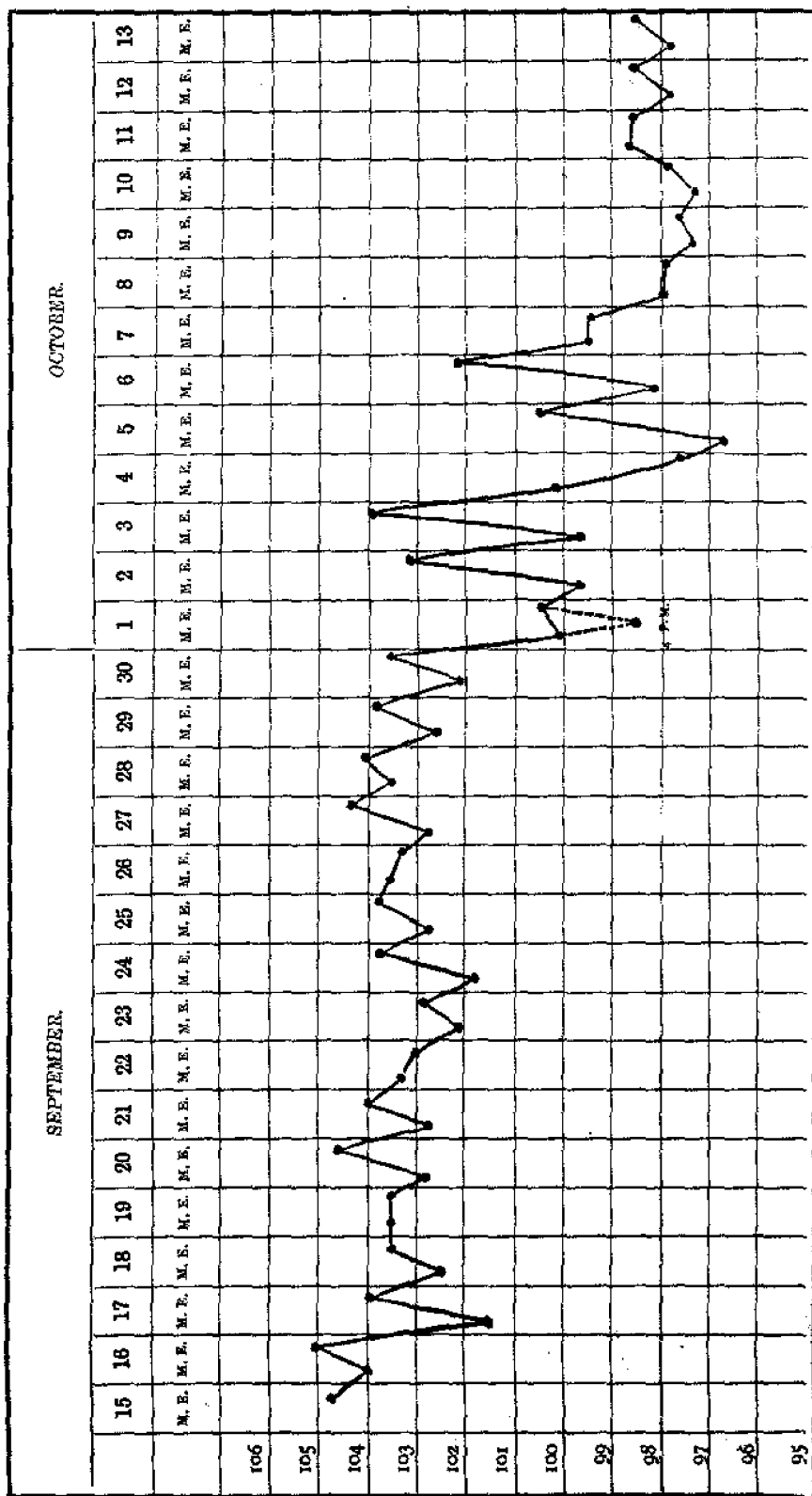
of the duodenum, and was perhaps one inch and a half in extent. The stomach was rather injected, and considerably stained with bile. One kidney was entirely cystic. No other signs of disease discovered. With such evidence of extensive enteritis it seems strange that no more pain was felt on pressure or percussion, which were carefully and repeatedly tried up to the day of death. The only way, it seems to us, to account for this singular absence of pain, is to bear in mind the situation and anatomical relations of the inflamed part, the absence of inflammation of the peritoneal covering, together with the strongly developed abdominal walls, and the very fat omentum. Until within a few hours of the patient's death we certainly did not, from the general symptoms, anticipate the fatal result.

During the hot weather cases of gastric disturbance with slight *tenderness* over the left lobe of the liver are very common, and hitherto we have generally attributed them to congestion of the liver. Query—Are they not, judging by the experience of the case just related, more likely to be the result of congestion or inflammation of the duodenum?

In our last report we detailed our experience of typhoid fever in Amoy, pointing out the fact that it has always been imported from North China or Japan, never originating in Amoy itself, or coming from the south. We have again to report a case, this time from Chefoo. As the identification of the disease is a point of some importance we annex the temperature chart (see next page). The patient, æt. 38, mate of an English brig, had but lately left hospital in Hongkong, where he had been for some months, in consequence of an injury. He says he shipped in Hongkong, made the voyage to Chefoo able for his work and feeling quite well; continued at his duties in Chefoo for some days, and commenced to take in a cargo of wheat. One day, when in the hold superintending the stowing of the cargo, he felt suddenly oppressed by the dust from the grain, his head began to ache, a desire to sleep came over him, and he had feelings of intense lassitude. He laid up for a few days, getting about at times, but after about a week he was constantly attacked after food by severe pain in the stomach, and sometimes vomiting, and in a few days more a severe hacking dry cough began to trouble him. He continued in this state, sometimes in bed, sometimes at work, generally keeping his watch, for three weeks, until the ship arrived in Amoy. On the day of her arrival he was on deck most of the time, working the ship into port, and perhaps exerting himself more than usual. That afternoon when we saw him he complained of the pain in his stomach, the vomiting, cough and lassitude. He had considerable fever, and next day (13th September) he was removed to hospital. He was placed on a diet of milk and lime water, took powders of bismuth and morphia, and had a small blister on the epigastrium which was rather tender on palpation. Careful auscultation detected nothing amiss with the lungs or heart. The vomiting did not recur and the epigastric tenderness disappeared, but the cough and fever continued. The tongue became dry and furred, and he manifestly wasted. For some time diagnosis was very obscure—the cough suggesting tuberculosis, and the absence of iliac tenderness and diarrhoea rendering typhoid fever improbable. If petechiæ existed they could not be distinguished in the eruption of prickly heat, but a copious hæmorrhage from the bowels on the 30th of September, 17 days after admission, removed all doubt, and at the same time cough ceased and the diagnosis of typhoid fever was established. There was a recurrence of the hæmorrhage, but no diarrhoea or iliac tenderness. On the 3rd of October we noted,—“Perforation appears to have occurred this afternoon. A sudden sharp pain in the abdomen caused him to spring up in bed. The acute pain passed away in a few minutes, but by evening there was marked tenderness of the abdomen.” October 4th.—“To-day the abdomen is still more tender, the tongue dry and brown, and the patient excessively prostrate. He vomited frequently, was at times delirious, and his temperature in the axilla sank to 96° F.” He appeared to be on the verge of dissolution. However, stimulants were freely administered, and, after the subcutaneous injection of  $\frac{1}{2}$  of a grain of morphia, he slept for several hours on the 6th of October. From that date he began to convalesce, and now, 21st October, appears on the fair way to recovery.

The tongue, the delirium, the temperature chart, the discharge of blood, the tenderness of the abdomen, and duration of the disease, are all characteristic of typhoid fever, and prove unmistakably the existence of that disease in China. It would be exceedingly interesting and valuable to get the experience of practitioners in Shanghai, Chefoo, Tientsin and Newchwang, on this point.

TEMPERATURE CHART of a case of Typhoid Fever.



This summer we cut a Chinaman from the country near Amoy for stone in the bladder. The patient recovered perfectly. We note the case, as until it presented itself Amoy had the reputation of immunity from this disease.

#### EPIDEMIC OF DENGUE.

On the 13th of August we were conducted to see cases of a disease which, during the previous week, had extended as an epidemic over many parts of the Chinese town. Whole families were said to be laid up by it at a time, and although not of a fatal character, we were told that it was interfering seriously with the business of the place.

We first visited a family of native Christians, well housed for Chinese, and in comfortable circumstances. Out of a household of 16 persons, 12 had been ill of the disease, and of these, 6 had had an eruption, while the other 6 expressed themselves as expecting the eruption. One old woman had distinct maculae on her hands and forearms, but the spots were badly defined, owing to the hard and withered condition of her senile skin, and the rash was said to be fading. At the same time we saw a boy whose legs were mottled by the remains of what the day before was a distinct eruption. A lad of 18 or 19 was at the time of our visit suffering from what we afterwards learned to regard as the primary fever; his pulse was quick and full, his limbs and head ached excessively, his skin was flushed and perspiring; he was very ill, but further than the deep flushing of the skin, bore no eruption. Another, who had just recovered, described his symptoms as follows:—Previous to August 5th he was quite well, but on that day he had a slight rigor, severe pains attacked his limbs and joints, so severe that after a few hours suffering he had to take to bed. August 6th, he was in strong fever. August 7th, still in strong fever. August 8th, fever much less. August 9th, an eruption all over him. August 10th, eruption still out. August 11th, eruption fading. August 12th, slight desquamation. August 13th, complains now of giddiness, fatigue, rheumatic like pains, and want of appetite; otherwise well. He also said that during the fever he perspired freely. Another in the same house said that during her illness her legs were slightly swollen for a day or two. We visited several other houses in which a similar state of affairs existed. In one, we found the father and two children, lying in the same bed in high fever, complaining much of severe rheumatic-like pains, and the mother, looking very ill, was staggering about the house, attending as well as she could to their wants. The two children we had removed to the Chinese hospital; their cases, Nos. 3 and 4, are given below. Two or three days afterwards we again saw the mother, and although she was a very yellow, dirty, thick skinned woman, large patches of eruption were distinctly visible about her knees and arms especially, the eruption being in large irregularly shaped patches something like a fading urticaria. They were fading, she said, and had lost their pristine distinctness. The father had also had the eruption, but when we saw him the second time it had gone; both suffered from debility.

A native doctor whom we visited denied the existence at the time of any peculiar disease, and showed us several children with a macular eruption which he called *Tchhoot pia* (measles). He has a large practice, and is considered quite an authority on small pox, measles and other eruptive diseases. Since, he has been attacked himself, and by his personal experience has become convinced of the error of his first diagnosis. This man entertains the opinion that every one is liable to three attacks of measles during his lifetime, twice before he has the small pox, and once afterwards. Following out this idea, he said that those who were suffering from this so-called new disease, and had gone through the measles only once or twice before, were having their second or third attack, all in proper course. The rheumatic pains he himself endured have quite changed his opinion on this subject.

As the disease advanced and became generally known, it acquired a variety of names. Few Chinamen believe that there is anything new under the sun, so this disease was at first considered an old acquaintance and was called "*Tchhoot pia*" (measles), "*Tchhoot pan*" (a name loosely applied to many febrile diseases with an eruption), or "*Hong pia*" (wind measles). Gradually however it was considered to be something new, and was variously called "*Sin khi*" (the new disease), "*Si khi*" (the seasonal epidemic), "*Hong khi*" (the rheumatic disease), and a variety of other loose and indefinite appellations. That no one, of the present generation at least, had seen anything of the sort is now generally admitted by the most

intelligent natives, and their opinion is confirmed by a very observant and intelligent foreigner who has been resident in Amoy for nearly thirty years.

By the 19th of August the disease had fairly established itself. So many suffered from the fever or its sequelae, that business was much interfered with, coolies, boatmen and native merchants being nearly all of them ill. Several Europeans had been attacked, in fact most of those living on the town side of the harbour and constantly in contact with natives. By the 27th of August many cases had occurred amongst Europeans both ashore and afloat. On the 1st of September the epidemic may be said to have reached its acme, and most of the Europeans who had been thoroughly exposed to the infection had sickened. The assistants and nearly all the patients in the native hospital had gone through the disease. From this date cases became rare, nearly all the susceptible amongst the Chinese having been attacked. By the 30th of September, it was a rare thing to meet a native who had not suffered. Almost the only cases we now see are people just arrived from the country. Patients coming from a distance are almost invariably attacked soon after their arrival in hospital, but the resident Chinese population appears to have had its susceptibility exhausted. At least 95 per cent have been attacked, and of a resident European population numbering about 160, 58 have had the disease. As we have said before, nearly all of those living on the town side of the harbour have been attacked; on the island of Koo-lan-soo, the proportion is not nearly so high. Every one has been in contact with cases of the disease, but there appears to be a necessity either for a concentration of the infecting poison, or for some peculiarity in the recipient or in the time of his exposure, in order to secure the development of the disease. The crews of all the ships for any time in harbour, with only one exception, have been attacked—at least a half, more often three-fourths, of them have suffered, the first cases appearing from 5 to 10 days after the arrival of the vessel in port.

For several weeks the disease was confined to the town of Amoy and its suburbs, but now it prevails with equal intensity, and with the same characteristics, in all the neighbouring towns. Tchiobao, Tehhang-tchiu, Tangoa and many other places are passing through the ordeal Amoy is just recovering from.

We have no direct evidence to support the statement, but we think there can be little doubt that this fever was imported by returning emigrants from the Straits Settlements. There, as well as in India, the disease has prevailed for many months. The voyage from Singapore to Amoy, during the south-west monsoon, lasts but for ten or fourteen days, and it is probable that some of the great numbers of returning emigrants brought the disease with them. A late number of the *Lancet* mentions that dengue prevailed in the earlier part of the year in Shanghai. If this is correct, Shanghai may be the starting point of the epidemic; but as Dr. JAMIESON has made no mention of such a fact in his last report, we presume the *Lancet* is mistaken.\* Foochow, Swatow, Hongkong and Formosa appear hitherto to have escaped, but unless cold weather prove fatal to the spread of the disease, we doubt not they will ere long be visited.

Notices of dengue are to be found in the works of TANNER, FLINT, MOREHEAD and AITKEN, but they are very meagre, and in some particulars incorrect. The best and most complete account we have met with is a contribution by Dr. AITKEN, in *Reynolds's System of Medicine* (2nd Ed. v. i. p. 173). To this we would refer for a full and careful description. But, as it does not altogether apply to the disease as we have encountered it in Amoy, we propose to give a short sketch of the leading features of the China form as we have observed it, hoping it may be of some service in assisting others to recognise the earlier cases they may meet, and trusting our remarks will elicit further and fuller observations of the local forms of this, to most Europeans in China, novel and interesting disease.

*Definition.*—Briefly, the malady we have witnessed may be defined as a specific epidemic disease, the typical forms of which are characterised by a first stage of fever more or less intense, lasting from one to three days, accompanied by severe myalgic and articular pains and marked congestion of the skin, ending by crisis of sweating, diuresis, diarrhoea or epistaxis; a second stage, lasting to the end of the fourth, fifth or sixth day, during which the patient is comparatively comfortable, though occasionally troubled with debility, myalgic pains or anorexia; a third stage, beginning usually on the sixth day with slight return of fever,

\* The epidemic of *Fung-sha* which I described at p. 41 of the 2nd number of this series of Reports (for the half-year ended 30th September, 1871) was supposed by some to be identical with dengue or closely allied to that disease. This opinion was not shared by the majority of the Shanghai practitioners, but its existence probably accounts for the note in the *Lancet*. R. A. J.

exacerbation of pains, and a specific well marked exanthematous eruption, followed, after a day or two, by diminution of the pains, fading of the eruption, and at times slight desquamation; and a fourth stage of convalescence, of variable duration, from a day or two to several weeks, during which the patient may be troubled with severe pains, or slight and evanescent attacks of febrile disturbance.

*Symptoms.*—The irruption of the fever may be preceded by a few hours of malaise; or painful rheumatic-like twinges in a limb, finger, or joint may warn the patient of its approach. Usually, however, the fever begins quite suddenly. One patient, describing the suddenness of the attack, said that in the morning he got up feeling quite well, and began to dress, but before he could complete his toilet he was so prostrated that further exertion was impossible. Another, who had frequently expressed his scepticism regarding the reality of the disease to which his boatmen and servants were one after another succumbing, was suddenly seized in the middle of a lecture on laziness and shamming, and had to be assisted to his room, an aching convert to the reality of the sufferings of dengue. Sometimes the fever is ushered in by a slight rigor or a feeling of chilliness, or by a discharge of large quantities of pale watery urine, as sometimes happens in the first stage of an ague; or deep flushing of the face may be the first symptom. However introduced the fever rapidly increases, the head aches excessively, some limb or joint or the whole body is racked with stiff rheumatic-like pains, the loins almost invariably are the seat of discomfort or pain, the face is suffused to a deep purple, and the rest of the skin and mucous membranes are flushed. These symptoms are rapidly intensified, and in a few hours, in severe cases, the patient is completely prostrated, his pulse 120 or more, his temperature  $103^{\circ}$  to  $105^{\circ}$  F.; he is unable to move for the violent pains in his limbs and head, his skin feels burning hot, or sometimes slightly moistened by a partial and abortive perspiration, and distressing vomiting may occur. Gradually, the tongue becomes coated with a moist creamy fur, which dries and acquires a yellow tinge as the fever advances. This state of high fever may last from one to three days. In the great majority of cases it is abruptly terminated about the end of the second day, by a crisis of diaphoresis, diarrhoea, diuresis, or epistaxis. Generally, with Europeans, it ends by a crisis of sweating, but among Chinese, diarrhoea or epistaxis is common. The relief to the headache, and fever especially, when epistaxis occurs, is sudden and decided. Thus the urgent symptoms abate, and the patient passes from the agony of the first to the comparative comfort of the second stage.

The diagnostic and characteristic marks of the first stage are found in the fever, the vascular injection of the skin, and the pains. The fever temperature ranges from  $100^{\circ}$  to  $106^{\circ}$  F., and is usually about  $104^{\circ}$  F.; the mercury gradually and steadily rises during the first 36 hours, and then suddenly descends to  $99^{\circ}$  or even  $97^{\circ}$  F. during the subsequent 6 or 12 hours. The vascular injection of the skin is very striking, especially in the face and hands, and around any wound, scratch or sore; it is often as deep in colour as the rash of scarlet fever, and like that is diffused—not in spots or small patches—and usually, where most marked, as in the face and hands, is accompanied by œdematous swelling, altering the appearance of the patient very strikingly. It is probable that this vascular injection is not confined to the skin, but extends not only to the mucous membrane of the mouth but also to that of the stomach, for tenderness and soreness of the epigastrium, increased by pressure, are often complained of, especially in the early part of the second stage when the more painful and urgent symptoms have subsided, and something of the general congestion of the integument remains. The bronchi and lungs appear to escape. But the most striking symptoms are the pains, which may be confined to one muscle, set of muscles, tendon or joint, or may be very general. While the part remains at perfect rest they are but slightly troublesome, but the slightest movement provokes them, and they thus confine the patient to one or two attitudes, in which alone he can find any ease. They may flit from one part to another; often the small joints swell, sometimes the larger, in which case they are maintained in a semi-flexed position, the most comfortable to the sensations. These pains, though perhaps most marked during the primary fever, continue to annoy during the whole course of the disease, and often trouble the convalescent for weeks after its apparent termination.

When the second stage has become thoroughly established, the patient is generally sufficiently well to leave his bed, or even attend to his business. An occasional twinge in a leg, or arm, or finger, or a tenderness in the soles of his feet, and giddiness on walking, may remind him of the agonies he has gone through.

But his tongue is cleaning, his skin is cool and moist, his pulse quiet, his temperature near the normal standard, and he feels moderately comfortable. *This state of matters lasts till about the beginning of the fifth, sixth or seventh day, when there is a return of the fever, slight in some cases, severe in others, and the third stage of the disease is established.* This secondary fever is often overlooked, as it may be but feebly marked, may last but a few hours, or may occur during sleep; at the same time an eruption appears on the hands, spreads to the limbs and trunk, and the characteristic pains return, often with more than their primary severity. The fever, we have said, passes off in a few hours, but the eruption, though at times very evanescent, may last two or three days, and be followed by an imperfect desquamation. It seldom happens that the fever or pains of this stage confine a patient to bed, though that is the best place for him if comfortable convalescence is desired. We have seen the thermometer register in this stage 103° F.; it seldom however attains this height, and it rapidly falls to below the line of normal temperature, on the setting in of profuse sweating or diarrhoea. The eruption possesses very definite characters, in very few cases is it absent, and probably in these it exists but is overlooked. It generally begins on the palms of the hands, and here or elsewhere its development may be preceded by pricking and tingling sensations. On the palms of the hands the spots at first are about the size of a small pea, circular, dark red and sometimes slightly elevated; but they are seen in greatest perfection on the back, chest, upper arms and thighs. In these situations they appear at first as isolated, slightly elevated, circular, reddish brown patches, from  $\frac{1}{2}$  to  $\frac{1}{2}$  an inch in diameter, thickly scattered over the skin, each spot isolated and surrounded by skin of normal colour. After a time some of the spots coalesce, and large irregular patches from one to three inches in extent are produced; or perhaps there is a general coalescence of spots, isolating patches of sound skin, the sound skin appearing as a pale eruption on a scarlet ground; or perhaps the whole integument may be covered by one unbroken continuous eruption. The hands, wrists, elbows and knees bear usually the thickest crop of eruption; on them the spots almost always coalesce, and on them alone when the crop is scanty is the eruption to be seen. Occasionally the congestion of the skin, especially about the inner surface of the knee, passes on to a well marked urticaria, with its itching, white, elevated wheals. The eruption fades in the order it appeared, first on the hands, and last on the legs and feet; but for several days after it has lost its more striking characters, the back, chest, arms and legs present a well marked mottling of the skin, and exhibit a slight tendency to desquamation.

What we have just attempted to describe is the specific and characteristic eruption—as characteristic as the exanthem of measles, scarlatina, typhus or any other analogous affection. But, from the appearance of the primary fever to the development of this rash, there is a peculiar congested condition of the skin, which, in very many instances, passes beyond the congestive stage, and gives rise to successive crops of innumerable little papules, vesicles, or pustules. These are often very marked, in fact the presence of something of the kind is rather the rule than the exception. The mucous membrane of the mouth is involved in this primary congestion, and often minute pustules and ulcers form on the inside of the lips and cheeks, giving rise to much pain and annoyance. Care must be taken not to confound these results of the congestive stage with the true eruption, which does not appear till a later period of the disease.

In some instances the disease may be said to end with the fading of the eruption. Appetite and strength gradually return, and the patient, after a few days, feels quite well. But with many—with most—their troubles do not end here; for days or weeks some muscle, tendon or joint, will be the seat of the peculiar pains we have already described. These pains may become so violent, universal and persistent as to send their victim back to his bed again. Sometimes, three or four weeks after all apparent trace of the disease has disappeared, some joint or muscle will be suddenly disabled by an attack of this description. We have observed this in patients who had little or no pain in the earlier stages. A finger or the joint of a finger may alone suffer. The wrists and shoulders are often the parts selected, and we have seen atrophy of the muscles of the thigh, the consequence of the hip-joint being attacked. The soles and outer surface of the feet, and the tarsal articulations are favourite situations. The pains are relieved by rest and warmth; they are usually worse on getting out of bed and moving the affected part after it has rested some time. When in a muscle, the pain is accompanied by a feeling of powerlessness.

The only sequelæ we have observed, besides the debility and pains, are enlargement of the lymphatic glands, transient attacks of a feverish nature, œdema of the ankles and feet, and sleeplessness. The enlargement of the lymphatic glands, most frequently the superficial cervical, is slight and temporary, and is most marked in the scrofulous and syphilitic. Any exposure or fatigue undergone too soon after recovery is often followed by a slight return of fever and an increase or return of the pains.

We met with three instances of what could strictly be called a relapse, with fever and eruption decidedly marked—not a large proportion, considering the number of cases which have passed under our observation.

We have not one death attributable to this disease to record, nor have we heard of such a result. But as neither young nor old, healthy nor sick, have been spared, we have no doubt that many of the young, many of the old and decrepit, and persons much debilitated by other diseases, must have succumbed to the violence of the initial fever, or to the subsequent debility. Just as with influenza at home, it is a trifling disease to the strong, but a serious one to the feeble, and were there mortality tables kept in Amoy they would undoubtedly show a great increase of the number of deaths for the months of August and September.

In four instances only have we been at all anxious about the result. A child, 7 or 8 years of age, had convulsions during the primary fever; a ship captain, previously epileptic, had several fits, and for a day or two was delirious and sleepless; in the case of a Chinaman, at the time a patient in the native hospital with enlarged spleen, and malarial anæmia and anasarca, the fever ran very high, and the heart's action threatened to fail; and in another Chinese patient, also with enlarged spleen and ulcerated leg, the ulcers sloughed and spread so rapidly after the subsidence of the primary fever, as to threaten to prove fatal. All recovered, however, under suitable treatment.

As in epidemics of other exanthematous fevers, so in this, instances of what appear to be abortive forms of the prevailing sickness occur. Several have complained of severe rheumatic-like pains in the limbs and joints,—sometimes severe enough to prevent sleep, but unaccompanied or followed by fever or eruption. In others again, a slight fever looked like the commencement of the disease, but it passed off in a few hours, without being followed by other symptoms. In the cases of three European children the fever and rash ran their course in three days.

The period of incubation of any disease is difficult to fix, and that under consideration is no exception in this respect. We have one or two facts, however, which prove that in some cases at least it is less than 5 days, and in one instance the time from exposure to the development of fever was not more than 24 hours.

An English brig arrived in port on the afternoon of the 12th of September, and on the forenoon of the 17th of September, a sailor sickened of the prevailing disease. In this ship, out of a crew of 9 men, 8 were attacked within a fortnight. An English schooner arrived on a Tuesday morning; the same afternoon the captain's wife took a walk on shore, and next morning she had the fever. On Thursday the ship went to sea, and on the following Sunday a child fell ill. In the case of the captain's wife, the incubation could not have lasted longer than 24 hours, or, if she became infected while ashore on the afternoon of the Tuesday, only 12 hours; the fact of the child falling ill too, proves the disease to have been that prevailing on shore at the time. An American ship arrived on the 3rd of September from Hongkong, several days out; no case of dengue on board on arrival; one man was taken ill on the forenoon of the 7th, and another on the morning of the 9th September; of the crew of this ship—about 20 hands—seven had the fever before she left. A German barque arrived from Hiogo on the 1st of September; a case of dengue occurred on board on the 7th of September. A German brig arrived on the 30th of August from Hongkong; a child was attacked early in the morning of the 7th of September. A German schooner arrived on the 31st of August; a case of dengue occurred on the 5th of September. We might multiply these cases, but they all go to prove the incubation stage to be under 5 or 6 days in most cases, perhaps not more than 12 hours in some.

*Treatment.*—As to treatment, we have confined ourselves to the exhibition of a mild aperient at the outset of the fever, and while it lasts to frequent small doses of nitric ether and acetate of ammonia. After subsidence of the fever we prescribe small doses of quinine, and during convalescence perhaps add a little iron. We also advise warm baths morning and evening, and direct the patient to keep warmly



clad, taking care not to chill his skin or check perspiration. Beef tea, chicken soup, and light pudding, are the most suitable food until appetite returns. Above all, we enjoin confinement to bed during the primary fever, and to a warm room until all trace of eruption has disappeared. If the patient gets about too soon, is careless in exposing himself, or fatigues himself by work or exercise, he is almost sure to be troubled with rheumatic pains, and to be liable to attacks of febricula for many weeks after what otherwise would be the termination of the disease.

Below, by way of illustration, we give a few unselected cases, and have appended to them temperature charts, the number above each of which corresponds to the number of the case in the text. For the incompleteness of these charts we apologise, but it is difficult to get a Chinaman to remain under observation or to oblige any one but himself.

1. THANG; a boy of 13; the child of parents in good circumstances, residing in the China town; is the first of his family who has caught the disease.

August 12th.—Legs and arms felt stiff and painful, head giddy, slight rigor, soon followed by intense fever and increasing pains in limbs and head; face flushed, mouth dry, sight dim, skin perspiring, bowels constipated, urine scanty, slight cough.

August 13th.—Admitted to hospital; temperature 103° F., pulse 140.

August 14th.—Fever diminishing, profuse perspiration, flushing subsiding; in the afternoon his nose bled, after which his pains and distress were much relieved.

August 15th and 16th.—Improving.

August 17th.—Obscure mottling of skin visible; went home. We have since heard he had a distinct eruption.

2. SAMKANG; a stonemason; æt. 36; lives in a hot stuffy house in the town, his neighbours and family have all had dengue.

August 17th.—Attacked with pains in the limbs about 6 P.M.; at 8 P.M. had fever, no rigor; pains in head and limbs very severe; oppression of epigastrium and a feeling of nausea; face much flushed.

August 20th.—Came to hospital still suffering from rheumatic stiffness but no fever.

August 21st.—Return of fever and a feeling of intense fatigue; eruption of rash preceded by a feeling of tenderness and pricking of the skin; rheumatic pains increased.

The eruption remained out for two days, and on its fading the pains gradually left him.

3. SIM-SOON; æt. 18; the son of poor parents, living in a dirty house in a neighbourhood where nearly every one has been ill. Parents attacked.

August 11th.—At 3 P.M. was seized with a slight rigor lasting but a few minutes, followed by pains in limbs and high fever, gradually pains increased in severity, his mouth became dry, breathing oppressed, taste and appetite disappeared, face flushed, feeling of nausea and fulness at the stomach.

August 12th.—Admitted to hospital at 4 P.M.; symptoms as described.

August 13th.—Vomited some watery stuff, after which the gastric discomfort immediately diminished, fever rapidly subsided, pains becoming less urgent. Perspired profusely throughout the fever.

August 14th, 15th, 16th.—Feeling moderately well.

August 17th.—A rash appeared and pains returned; face and ears slightly swollen.

August 18th.—Went home; the rash still out but fading.

September 4th.—We hear to-day that the rheumatic pains still trouble him, especially in his wrists, and interfere with his working.

4. TAN-MOON; æt. 16; lives in a dirty house in the China town, his parents and neighbours are all ill.

August 13th.—Was attacked in the morning with pains in limbs and back, and after three hours' suffering (no rigor) fever began, the pains increased, face flushed, eyes became dim and vision impaired.

August 14th.—Came to hospital; fever increasing.

August 15th.—Had diarrhoea, and immediately on the occurrence of this, fever and pains diminished rapidly.

August 16th.—Pains troublesome.

August 17th.—Pulse gone up a little, otherwise as yesterday.

August 18th.—An eruption has appeared on the back of the arms, chest and back, face flushed and swollen; during the night he felt hot and uncomfortable; pains and feeling of weariness more decided. The spots vary much in size, some like a mosquito bite, and others long wheals as if produced by the blow of a bamboo. By evening was very feverish, temperature 103° F.

August 19th.—Fever less; temperature 100° F. Face, limbs and trunk are redder than yesterday, the rash then appeared as red spots on a normal skin, but now the normal skin appears as islands on a sea of continuous red eruption.

As all his family are ill he is obliged to go home.

5. TCHIN-KNG; an assistant in the Chinese hospital; was attacked by the prevailing fever, pains in his limbs, red face, &c. On the 5th morning of the disease the usual eruption began with a slight mottling of the skin. On the 6th it was distinct, and there was a slight return of fever and rheumatic pains. From this time recovery was rapid, and on the 7th day he felt well enough to go on a voyage to Formosa.

6. Tser; a patient in hospital recovering from an eye operation, was attacked by the disease. It ran a very mild course but delayed recovery from the operation. On the 6th morning the rash appeared as a slight mottling on the back, and on the 7th morning, though rather scanty, it was quite distinct. Little if any secondary fever.

7. ANG-THIAU; a patient in hospital recently operated on for soft cataract, caught the disease. It was a very mild attack indeed, but on the 5th and 6th days there was the usual eruption. The eyes were not seriously affected.

8. KILANG-HAI; a patient in hospital suffering from debility.

August 24th.—Arms, legs and head became painful this morning; by midnight the pains were very distressing, and next morning he had a slight rigor followed immediately by fever.

August 25th.—Face flushed, profuse perspiration, limbs racked with pain, scanty urine, nausea, constipation, temperature 104° F. By evening he felt a little easier though the temperature had risen to 105° F. and the pulse to 140.

August 26th.—Much better; profuse perspiration.

August 27th.—Mottling of skin visible.

August 28th.—Rash distinct and unusually elevated. Went home to-day.

9. SONG; æt. 27; a servant, lives in the same house as SAMKANG, No. 2.

August 21st.—This morning his shoulders, wrists, back, legs and arms became painful, and he had a short trifling rigor; in three hours he was in high fever, pains much increased, unable to rise, headache intense, face flushed, skin perspiring, urine scanty, bowels constipated, breathing oppressed.

August 22nd.—This morning feels a little better; fever and discomfort rapidly diminished during the day, though the pains remained in a less intense form.

August 23rd.—Had itching of a most annoying character all over the body, and great pain in the calves of his legs.

August 24th.—Had a slight rigor this evening, increase of pains and return of fever.

August 25th.—Rash appeared in the following order: 1st, arms; 2nd, shoulders; 3rd, hips; 4th, legs; 5th, body.

August 26th.—Rash well out but fading.

August 27th.—Limbs still aching.

10. LOA; æt. 26; a very poor man, admitted to hospital for starvation and enlarged spleen. He had been a patient for some months, a small ulcer on one leg had healed, the enormous spleen was much diminished, and his general cachexia much improved, when on—

August 19th, towards evening, his limbs and head began to ache, and after a time (without rigor) fever declared itself, pains were extreme, tongue rapidly furred, face flushed and he was much prostrated.

August 20th.—Still in high fever.

August 21st.—Temperature 103.9° F.; pulse 120. Has a slight cough besides the usual symptoms. About 4 P.M. epistaxis occurred and though slight was immediately followed by great relief.

August 22nd.—This morning feels much better, pains diminished by one half, and fever is less; perspiring profusely.

August 23rd.—His leg is beginning to ulcerate.

For several days the ulceration and sloughing advanced very rapidly, until a hole 3 or 4 inches in diameter and very deep had been dug in his leg. Healthy action soon set in, however, and the sore began to granulate. His skin was too dirty and yellow to show an eruption.

October 6th.—Has not yet recovered from the effects of the fever. Excessive debility confines him to bed, and he is obliged to take large doses of quinine daily to keep down the aguish attacks which persist in recurring. Leg granulating.

11. PIA; a patient in hospital for ulceration of the leg, of syphilitic origin. The fever ran its usual course, and on the fourth morning his skin had a mottled appearance which remained distinct up to the seventh evening.

12. PHOA; æt. 24; a pedlar from Tangoa, for some months in hospital under treatment for the effects of a three years' rheumatism which has drawn up his legs and arms, ankylosed many of his joints, and bedridden him.

August 20th.—At midnight had a very slight rigor, followed immediately by excruciating pains in his limbs and body, and fever. Fever rapidly increased, and was accompanied by profuse perspiration.

August 21st.—Face much flushed, breathing oppressed, perspiration profuse, thirst and nausea, pains very severe; this was his condition in the early morning; by afternoon, however, after profuse perspiration his temperature had fallen a full degree, but by night fever and pain had again returned with their former violence, his head feeling as if it would burst open.

August 22nd.—Fever and pains diminished during the night.

August 23rd.—Much better.

August 24th.—Fever gone, but pains in limbs excessive.

August 25th.—Eruption out.

On the 7th day there was slight return of fever, and on the 5th September he had still pain in his wrists.

13. TONHONG; æt. 38; came to hospital suffering from the anasarca of extreme anæmia. The kidneys and heart were quite healthy. Had been in hospital but four days, when on—

August 23rd, about three in the morning, he had a slight rigor followed immediately by high fever and extreme rheumatic pain, flushing of the face, and oppression of breathing, very little perspiration; at 6 o'clock the same morning, just three hours after the onset of the fever, his temperature, in the axilla, had reached 106° F.; at 10 o'clock, his temperature still marked 106° F., notwithstanding copious diarrhoea which had set in. His pulse had reached 160 in the minute, was very small, often irregular, and his prostration very great. Took an ounce of gin every hour, and five grains of quinine every three hours during the day, and by evening his pulse and general symptoms had much improved.

August 24th.—Improved. During the night had several copious watery stools. Fearing exhaustion the diarrhoea was checked.

August 25th.—Improving.

August 26th.—Better, but was removed by his friends.

14. LIM-KANG-SIN; æt. 39; a patient in the hospital for ascites and anæmia. He had been under treatment for two days only, when on the night of 29th August he had a slight rigor followed by fever, diarrhoea and rheumatic pains; face flushed, breathing much oppressed.

August 31st.—Fever gone, after copious diarrhoea. The case is characterised by the slightness of the fever and the severity of the rheumatic symptoms.

September 3rd.—Return of fever and diarrhoea this afternoon.

September 4th.—Eruption copious, accompanied by very severe pains, feeling as if limbs were being broken.

The thermometer kept high for a day or two after this and then fell, but the pains continued very troublesome for a long time.

15. TCHUNG-NI; æt. 28; a patient in hospital with slight ulceration for but four days, when on—

August 30th, fever set in after a slight rigor, along with flushing of the face, oppression of breathing, and a feeling of nausea.

August 31st.—Morning, fever rather less, feels better. Evening, fever returned, pains and prostration very considerable.

September 1st.—Fever less; about mid-day diarrhoea set in and his sensations rapidly improved.

September 2nd.—Bones aching, but no fever.

September 3rd.—By evening the fever returned a little, eruption appeared, the pains becoming very severe at the time, and some joints swelling.

September 4th.—Eruption out.

September 5th.—Convalescence established.

16. TCHIOH-TCHIAOU; æt. 32; a patient four days in hospital for enlarged spleen and ulcerated legs.

August 30th.—Evening; suddenly attacked with severe pain in left hip, preventing his walking, quickly followed by slight rigor and extension of pain to the rest of the body. After a few minutes, fever set in, pains increased, skin covered with a slight perspiration.

August 31st.—Fever continues, face flushed and mouth very dry. Evening; had 5 or 6 stools accompanied by dysenteric straining; relieved by castor oil and ipecacuanha.

September 1st.—Fever less, pains very urgent; dysenteric symptoms better.

September 2nd.—Improving.

September 3rd.—Diarrhoea. But for pains feels well.

September 4th.—Pains continue.

September 5th.—Fever returned, with feeling of great weariness, thirst and oppression. Skin dry. Temperature 102° F.

September 6th.—Still in fever, but by evening diarrhoea returned and he began to feel better.

September 7th.—Improving; bones still painful.

This patient had no eruption visible, although the secondary fever was unusually strong.

17. O-I; æt. 38; a patient in hospital for chronic dysentery. Admitted on 24th August.

August 30th.—This morning nausea, giddiness and a slight rigor were followed by fever, and pains in limbs and head.

August 31st.—During the night fever ran very high, and this morning face is excessively flushed; by evening fever had increased and he was feeling very ill.

September 1st.—Better. During the night had three watery stools. By evening his temperature had fallen to 98.4° F., and he was feeling much better.

September 2nd.—This afternoon the myalgic pains increased.

September 3rd.—Eruption over the skin this morning, swelling about the joints, and much pain.

September 4th.—Eruption fading. Convalescence set in from this date, and under treatment his chronic dysentery improved.

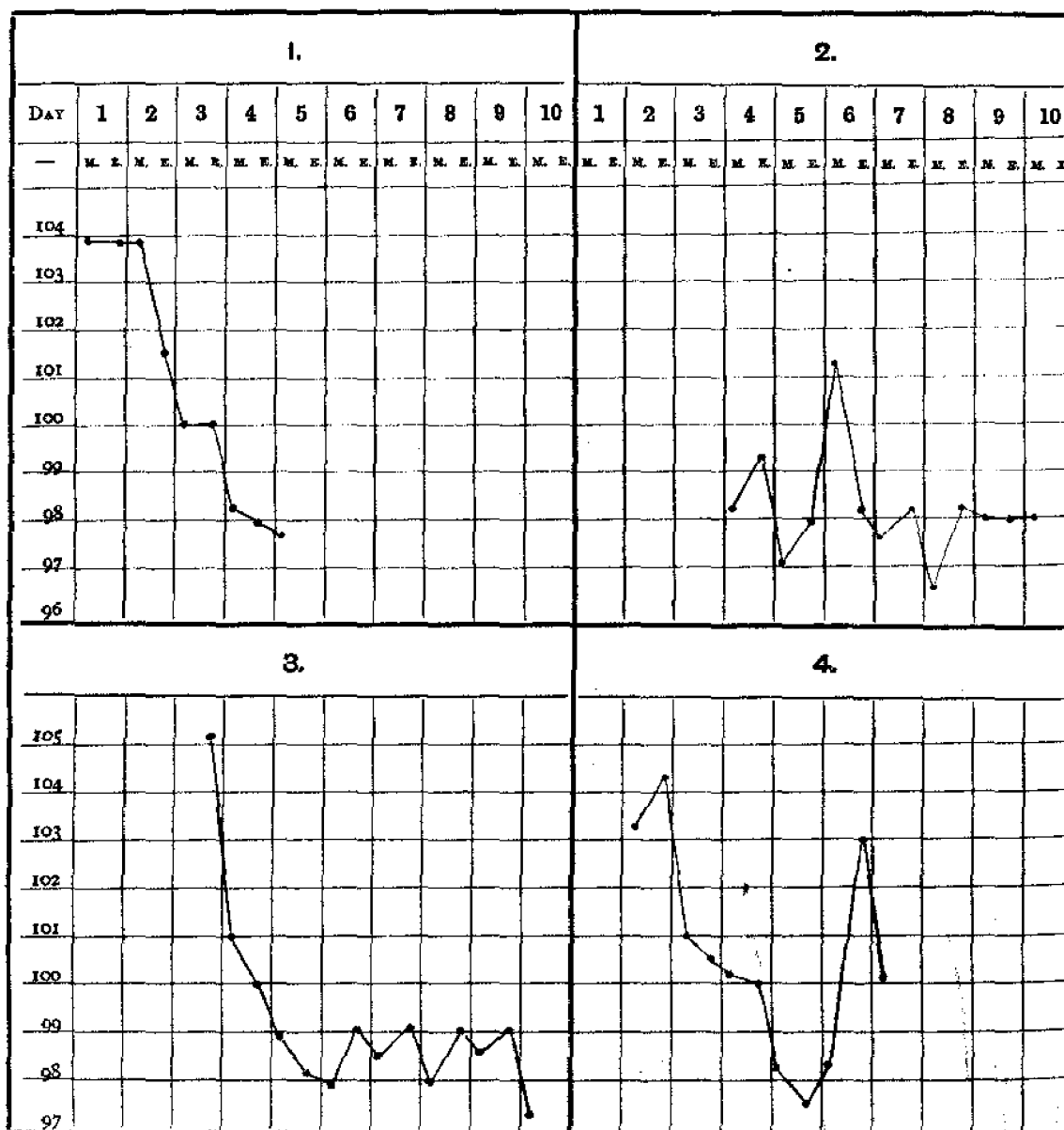
18. A FOREIGNER, residing on Koo-lan-soo. Fever began on the 30th of August, ran very high and was accompanied by headache of the most intense description; but trifling, if any, myalgic pains. A brilliant eruption appeared on the morning of the 3rd of September, and on the evening of the 4th there was some return of fever. Although he had no pains during the existence of the fever and eruption, yet on the 9th of September they attacked one foot, and three weeks afterwards a shoulder. He was careless in returning to business while the eruption was fading.

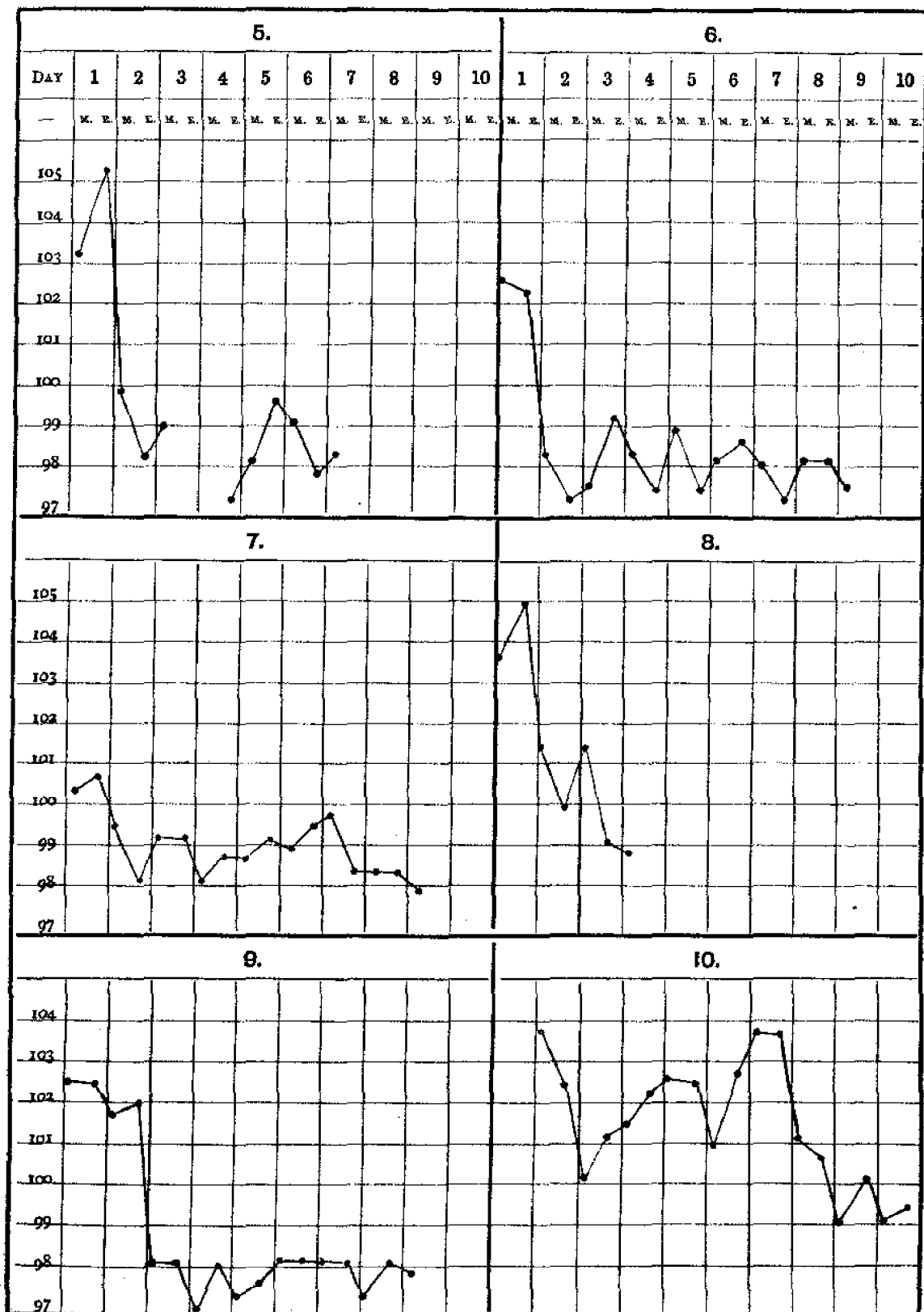
19. A FOREIGNER, at the period of his attack residing in Amoy. Seized with fever, intense flushing, and break-bone pain on the morning of the 31st of August. Fever ran high. A copious eruption appeared on

the morning of the 3rd of September, with a slight return of the fever. Little or no rheumatism followed. Patient exercised great care in not exposing himself.

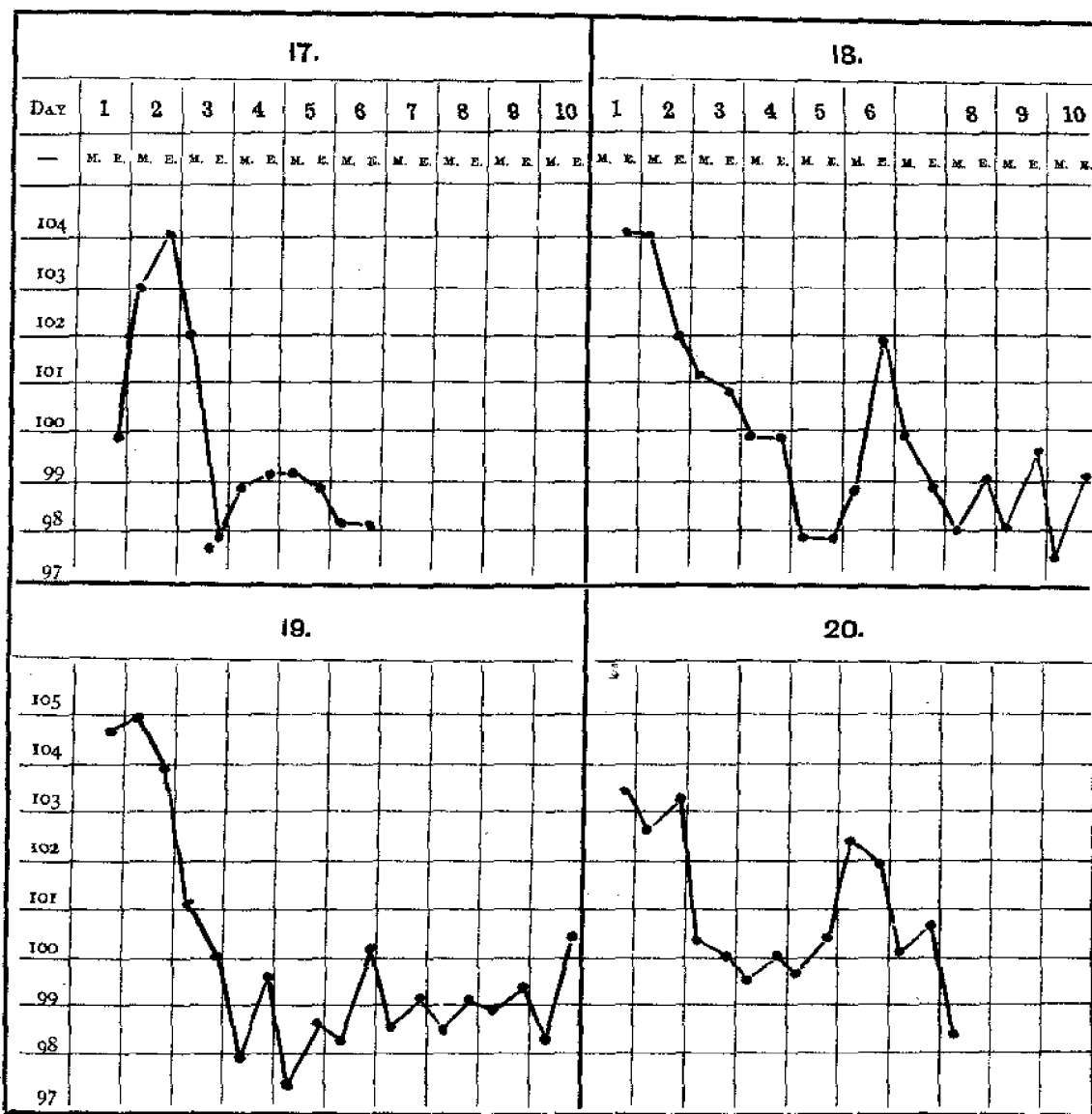
20. A FOREIGNER, residing in Amoy. Illness began on the 3rd of September. Fever was comparatively mild, but congestion of the skin unusually intense. A scratch on one arm was surrounded by a blush of redness like erythema. Pains very considerable. The eruption with a return of fever appeared on the 8th of September. Secondary fever very well marked.

TEMPERATURE CHARTS of twenty cases of Dengue Fever.











**B.—Dr. David MANSON's Report on the Health of Takow and Taiwan-foo for the half year ended 30th September, 1872.**

THE past six months has been remarkable for the small rain-fall and the absence of high winds. Previous to the 10th May there had been scarcely any rain for nine months; on that date and during the three following days heavy and continued rain fell, but thence to the end of September the fall was almost nil. Coincident with the heavy rain in May was a severe outbreak of intermittent and remittent fevers, which told heavily on the Chinese population, the more so, as, owing to the long continued dry weather and consequent scarcity and high price of rice, great numbers were at the time in a state of half famine.

Among the foreign residents I have to note three cases of intermittent fever, two of whooping cough, and one mild case of dysentery.

Among the shipping two cases of intermittent fever and five cases of diarrhoea, occurring at the latter end of May, were acquired in port.

There has been no death.

TABLE of Maximum, Minimum and Mean Temperatures in the shade for each Month.

MONTH.	HIGHEST.	LOWEST.	MEAN HIGHEST.	MEAN LOWEST.
April,.....	84°	72°	80°	76°
May,.....	85°	76°	83°	79°
June,.....	89°	80°	86°	82°
July,.....	90°	80°	86°	82°
August,.....	89°	79°	85°	82°
September,.....	89°	78°	85°	80°

The following is a list of the diseases of *Natives* treated during the past six months:—

**A.—ZYMOTIC DISEASES.**

**I. Miasmatic Diseases:—**

**Intermittent and Remittent Fever,**

—	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	TOTAL.
Intermittent—							
Quotidian,.....	6	28	49	49	30	35	197
Tertian,.....	1	8	24	33	11	17	94
Quartan,.....	4	3	8	8	12	14	49
Remittent,.....	2	10	35	38	14	19	118
Total,.....	13	49	116	128	67	85	458

Dysentery, . . . . .	15 cases.	Toothache, . . . . .	10 cases.
Diarrhoea, . . . . .	25 "	Piles, . . . . .	9 "
Ophthalmia, . . . . .	6 "	Fistula in Ano, . . . . .	7 "
II. <i>Enthetic Diseases</i> :—		Ascites, . . . . .	10 "
Gonorrhoea, . . . . .	15 "	Constipation, . . . . .	4 "
Syphilitic Iritis, . . . . .	1 "	Inguinal Hernia, . . . . .	1 "
Stricture, . . . . .	2 "	Jaundice, . . . . .	1 "
Orchitis, . . . . .	2 "	Stricture of Oesophagus, . . . . .	1 "
Syphilitic Rheumatism, . . . . .	7 "	V. <i>Diseases of Urinary System</i> :—	
Syphilis:—		Stone in the Bladder, . . . . .	1 "
Primary, . . . . .	10 "	Bright's Disease, . . . . .	5 "
Secondary, . . . . .	16 "	Cystitis, . . . . .	2 "
Tertiary, . . . . .	7 "	Urinary Fistula, . . . . .	2 "
Bubo, . . . . .	9 "	VI. <i>Diseases of Generative System</i> :—	
Gonorrhoeal Ophthalmia, . . . . .	13 "	Spermatorrhoea, . . . . .	3 "
Syphilitic Ulcers, . . . . .	10 "	Abscess of Testicle, . . . . .	1 "
Leprosy, . . . . .	14 "	VII. <i>Diseases of Locomotive System</i> :—	
III. <i>Dietic Diseases</i> :—		Caries, . . . . .	1 "
Bronchocele, . . . . .	1 "	Necrosis, . . . . .	5 "
IV. <i>Parasitic Diseases</i> :—		Synovitis, . . . . .	5 "
Lumbrici, . . . . .	30 "	VIII. <i>Diseases of Integumentary System</i> :—	
Scabies, . . . . .	23 "	Chronic Ulcer, . . . . .	67 "
Ringworm, . . . . .	16 "	Psoriasis, . . . . .	3 "
B.—CONSTITUTIONAL DISEASES.		Impetigo, . . . . .	4 "
I. <i>Diathetic Diseases</i> :—		Eczema, . . . . .	3 "
Rheumatism, (Chronic), . . . . .	82 "	Abscess, . . . . .	39 "
Anæmia, . . . . .	44 "	Whitlow, . . . . .	9 "
Asthma, . . . . .	13 "	Keloid, . . . . .	1 "
Cancer, . . . . .	4 "	IX. <i>Diseases of the Eye</i> :—	
II. <i>Tubercular Diseases</i> :—		Amaurosis, . . . . .	2 "
Phthisis Pulmonalis, . . . . .	38 "	Cataract, . . . . .	7 "
Scrofula, . . . . .	8 "	Corneitis, . . . . .	9 "
C.—LOCAL DISEASES.		Cornea, Conical, . . . . .	2 "
I. <i>Diseases of Nervous System</i> :—		" Opacity of, . . . . .	38 "
Hysteria, . . . . .	1 "	" Ulcer of, . . . . .	18 "
Epilepsy, . . . . .	2 "	Chronic Conjunctivitis, . . . . .	96 "
Neuralgia, . . . . .	2 "	Adhesions of the Iris, . . . . .	7 "
Sciatica, . . . . .	1 "	Entropium, . . . . .	16 "
Otitis, . . . . .	5 "	Trichiasis, . . . . .	27 "
II. <i>Diseases of Circulatory System</i> :—		Pterygium, . . . . .	5 "
Valvular Disease of Heart, . . . . .	1 "	Glaucoma, . . . . .	6 "
Varicose Veins, . . . . .	3 "	Staphyloma, . . . . .	6 "
III. <i>Diseases of Respiratory System</i> :—		D.—DEVELOPMENTAL DISEASES.	
Chronic Bronchitis, . . . . .	39 "	II. <i>Of Women</i> :—	
Emphysema, . . . . .	1 "	Amenorrhoea, . . . . .	4 "
Pneumonia, . . . . .	1 "	Dysmenorrhoea, . . . . .	1 "
IV. <i>Diseases of the Digestive System</i> :—		E.—LESIONS FROM VIOLENCE.	
Enlarged Spleen, . . . . .	148 "	I. <i>Accident</i> , . . . . .	86 "
Dyspepsia, . . . . .	68 "		

Malarial fever, more or less prevalent during the whole year, became epidemic towards the latter end of May, and continued so throughout the summer. According to Chinese statements the mortality in the country districts was very great. A severe form of remittent fever was prevalent and very fatal at Pitau, a town of about 30,000 inhabitants, situated 6 miles inland from Takow. Here several deaths occurred daily during the months of June and July.

The more severe forms of remittent fever seen at the Chinese hospital at Takow were characterised by adynamic symptoms, little or no remission, and a tendency to dysentery during convalescence. In two of the cases treated, both of which were fatal, there was hæmorrhage from the stomach and bowels. Quinine, alcoholic stimulants and beef tea were freely administered in severe cases. In the dysentery, which in one out of three cases was a sequela of the fever, ipecacuanha was extremely beneficial. Two cases of death from rupture of an enlarged spleen were observed. One was that of a patient in hospital with a very large and unusually prominent spleen. While walking about he tripped and fell; death took place in five hours with symptoms of internal hæmorrhage. The other case was that of a man who had formerly been treated in hospital for enlarged spleen. During a street row he received a kick in the region of the spleen, and when examined half an hour afterwards life was extinct. The outline of the spleen, which was very marked before the accident, could not be made out.

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C.—Dr. James WATSON's Report on the Health of Newchwang for the half year ended 30th September, 1872.

THE Meteorological Table which I append to this short Report, indicates a hotter summer than foreigners have experienced in this settlement before. Whether the increase in heat was the cause of a greater amount of sickness on shore among foreign residents than usually obtains here, I do not know; but it is certain that sickness was more prevalent during the six months that have just passed than in any similar period during the last eight years. For three weeks the mercury was frequently as high as 88° F., and, as the table shews, it stood on one or two occasions as high as 95° in the shade and in the open air.

In the month of April a case of measles occurred in the Custom House. The only interesting points were the early age of the patient and the fact that no other children became affected. The child was only three months old. The attack was a sharp one, but there were no serious complications, although for two days the lungs were slightly inflamed. At the time the case occurred, there were ten foreign and two Chinese children living in the blocks of buildings which constitute the Customs premises; but in consequence of the isolation, which was strictly enforced, none of these suffered from the contagion. In April also, a ship with a case of small-pox entered the harbour. When the vessel left Shanghai all the men on board were well, but during the voyage one man suffered and recovered from the disease. The eruption was not developed in the case I was called to treat when I first saw it. Subsequently two other cases of small-pox occurred in the ship. These I treated on shore. They were slight, and all the patients were able to proceed to sea when the vessel cleared for a southern port.

In connexion with these cases I would here make a remark on the subject of quarantine. In the event of small-pox occurring in foreign vessels entering this port, it seems to me not only absurd but cruel to insist on quarantine. In this place and its neighbourhood small-pox amongst the Chinese is never absent. The cooping up of one or two cases on board ship does not therefore insure us from infection, while the poor non-infected sailors suffer an amount of discomfort which I think they should not be called upon to endure unnecessarily. On the other hand, the patients cannot be properly treated. Meanwhile our servants visit their friends or relations who may be, and often are, suffering from the disease, and yet attend as usual to all their duties in our households. I have on several occasions had such facts brought prominently before me. In one instance I was called to see the child of my own butler, a few hours before it died. It was a bad case of confluent small-pox, and during the whole course of the disease my servant had been visiting it daily, unknown to me. During this time, of course, every one who came in contact with him was exposed to the infection. And as this is a common experience here, I would ask whether it is either reasonable or humane to enforce quarantine under such circumstances. I think not, but on this point I should like to have the opinion of my professional brethren. Of course, when small-pox patients are brought on shore, they must be isolated as much as possible. But I hold that they should be brought on shore, and the ship thoroughly disinfected; and if this were done, I believe the community would incur less risk than from the imperfect quarantine which it has been on one or two occasions proposed to enforce.

The diseases which were most frequent during the summer were diarrhoea, colic and dysentery. Many cases of diarrhoea and colic were unusually severe but they were always relieved by hot fomentations, diffusible stimulants, opium and rest. One or two cases of dysentery were very troublesome but they eventually recovered.

Accidents of various kinds have been somewhat frequent. During the six months there have been two fractures of the thigh, and one of the arm. In one of the thigh fractures the patient was a little boy under three years of age, and I only refer to it in order to recommend in all such cases the starch bandage in preference to any other plan of treatment. In the other case of fracture of the thigh, the point of interest

was the mode in which the accident occurred. The lad (18 years of age) got a fright from something falling by his side. This caused the muscles to contract with such violence that they snapped the bone in the middle third. All the fractures made good recoveries.

There were two deaths amongst the European population, both infants, one, a child of eight months old, died during my absence from home. It had been sick from its birth, and from the first it was evident it could not live. It was under-nourished and suffered from scrofulous deposits on the membranes of the brain and spinal cord. The other child was only four weeks old. It died from inanition. The mother had no milk, and fresh cow's and condensed milk both disagreed with the child's stomach. After great difficulty wet nurses were obtained, but too late; and apparently the child died from no other cause than the absence of proper food.

Amongst the shipping one death occurred from dysentery.

It is somewhat remarkable that the hottest season which foreigners have experienced here should have immediately followed the coldest. At the seaside (Kai-chow Point) I had the temperature taken daily during the months of June, July, August and September, and the greatest heat registered in the open air in the shade was 89°. The warm summer, if the cause of an increased amount of sickness amongst foreigners, certainly did not so affect the Chinese. Throughout the six summer months the Chinese population enjoyed an immunity from disease which, considering their indifference to healthy conditions, is very remarkable.

TABLE of extreme Temperatures and Barometrical Changes during the April to September half year.\*

MONTH.	BAROMETER.		THERMOMETER.		REMARKS.
	Highest.	Lowest.	Highest.	Lowest.	
April, .....	30.50	29.70	70°	25°	There was an unusually large number (38) of rainy days. The quantity was also above the average. From this cause the crops suffered considerably. The prevailing winds were not so boisterous as they usually are.
May, .....	30.25	29.58	70°	44°	
June, .....	30.14	29.78	86°	58°	
July, .....	29.90	29.40	92°	66°	
August, .....	30.02	29.29	95°	56°	
September, .....	30.29	29.84	81°	50°	

\* The thermometer was hung under a verandah on the northern wall of the Custom House. The barometrical readings were taken from the instrument in the Harbour Master's Office.

*D.—Dr. John DUDGEON's Report on the Physical Conditions of Peking, and the habits of the Pekingese as bearing upon Health.*

*(Second Part.\*)*

*Population.*—The population of Peking has greatly decreased during the present century. It does not lie within my province at present to enquire into the causes of this decline. From the accounts of the Jesuits and the Russians, not to speak of the present half ruinous condition of the city, as evidence itself of the fact, the capital must have been very much more populous, wealthy and splendid than it now is. At no time, however, has density of population had any marked deleterious effect upon the health of the inhabitants. The mortality of a large city is of course greater than among a corresponding number of people scattered over the country; but the mortality of Peking has not been affected by population in the same ratio as western cities. Over-crowding, in our western sense of the term, is practically unknown, except perhaps in the House of Refuge in winter, where a fearful mortality occurs, the almost direct consequence of over-crowding and vitiated air. The houses are almost invariably of one story, and possess ample courts and tolerable ventilation; the habits and business pursuits of the people take them much into the open air; in summer they live almost entirely out of doors; there are plenty of empty spaces and waste land, and many of the thoroughfares are 120 feet broad. The ordinary evil effects arising out of dense population may therefore easily be conceived as being at a minimum. It is no exaggeration to say that in Peking the various classes of the people, (the beggars and police who live for the most part on the streets, excepted,) are more healthily housed than the same classes in our large cities in Europe. The cursory visitor to Peking will probably doubt the correctness of this statement. In the west, for a variety of reasons, the best parts of cities are to be seen on the public streets; the lanes, wynds, alleys and closes are, for the most part, hidden from view. The reverse is the case in Peking, and this is true of most Chinese cities; the public thoroughfares belonging specially to nobody, nobody looks after them; there is no public opinion and everyone makes them the receptacle of all manner of filth. Hence the incorrectness of comparing eastern with western cities from an external and public or social and sanitary point of view. A comparatively insignificant doorway may in Peking lead to spacious courts, a commodious house and probably a romantic garden. The customs of the country, the style of architecture and the peculiar Chinese family relations, necessitate privacy and life in courts. The houses contain no water-closets, the kitchens no drains or sinks; there are no common staircases where vitiated air may collect and gradually permeate the whole building. The very lowest houses are not destitute of pure air, water and open spaces all around them. The private drainage, depending upon the public sewers which are impervious, is of course faulty, and many of the courts and houses are flooded in the rainy season. I do not say there is not room for improvement in various respects, such as their brick and earthen floors, earthen *kangs* or bed places, and the want of fire places and chimneys. But such as their houses are, they are on the whole a credit to the enlightenment of the people. The various houses forming one establishment are all separate buildings, and these again do not join with the neighbouring buildings. Feng-shuey demands that bad influences should be impeded by irregularity in the individual houses, although taken as a whole the streets are straight. The extension of contagious diseases and the spread of fires are thus more easily prevented.

*Cemeteries.*—In this connexion it is important to notice the customs regulating burial. No interments whatever are permitted in the Tartar city. The southern city, being at its eastern and western extremities thinly peopled, contains much unoccupied land which has been set apart by the officials as a public place of interment for the poor. With this exception, all interments are made in private ground outside the city.

\* For the first part of this paper see *Medical Reports* No. 2, (April to September 1871) page 73.

There are no public cemeteries, those for the eunuchs and for members of foreign nationalities excepted. Every well-to-do family possesses a private burying ground, which is generally planted with firs, cypresses, willows or white barked pines. These spots lend beauty to the otherwise dull monotony of the plain around the city. There is no crowding of the dead, never more than one is buried in the same grave. The practice adopted here of interring, and that at a considerable depth, is much to be commended. How different is the custom at Tientsin and other places, where in a very large number of cases, the coffins are simply placed on the surface of the owner's land. Fewer evils, however, result from this latter practice than would be supposed by any one unacquainted with the subject. The coffins are generally large and massive, and the joinings are well fitted together while a durable cement is laid over the seams. The practice of interring relatives in the cultivated fields of the family, so common among the agricultural and middle classes, is rather to be commended. The mounds in the course of two generations disappear under the influence of tillage and the weather, and all traces of them cease to exist, the crops gradually encroaching upon them. Where they exist there is always abundant grass on which the people graze their animals. No doubt these mounds are frequently renewed and repaired by the warm affection of survivors, but in course of time they inevitably disappear. China may truly be said to be a vast necropolis, the whole soil is so studded with graves. That we do not live entirely among the tombs is owing to their gradual disappearance from the face of the soil.

But there is one practice which cannot be too strongly condemned, and that is the habit among the better classes, and often aped by the poor, of keeping the dead for weeks, months, nay sometimes years and generations, from motives of respectability, feelings of affection, or temporary inability to inter with becoming decency, suitable to their position and rank and what is expected of them. Marriages are postponed for a like reason often for years, until money enough can be had to perform the necessary rites with the suitable paraphernalia. Where respectability in the eyes of the world would be lost, love must stand in abeyance. This slavish conformity to custom and external appearance is the great bane of China and one of the chief causes of the impoverishment of once wealthy families and of the people generally. It was the Emperor Kia-tsing, I think, who perceived this, and set his face against it by ordering that his funeral should be conducted in the most economical, simple and unostentatious manner, as an example to be followed by the nation. In seasons of epidemics, such as cholera, small-pox or diphtheria, this practice of postponing interment is most dangerous. A mat awning is usually erected, diviners are called in to fix upon a lucky day, priests are called to chant prayers, and a protracted weeping, howling, singing, burning of incense and beating of gongs, bells and drums is kept up. I have seen the most disastrous consequences follow this custom. For the poorer classes the government has provided outside most of the gates, small houses or morgues for the reception of the dead under 10 years of age. The bodies are removed every few days in winter and every day or every alternate day in summer, to the Foundling Hospital, where they are lodged in a vault, and when they collect in numbers they are buried in the official ground, already referred to, in the east part of the Chinese city.

So unlucky is the passage of a dead body considered that it is strictly forbidden to have a coffin carried through the Front Gate or across the road leading to it. Persons living on either side of this locality require to make long detours to reach the opposite side of the city on which the family burying ground may be situated. It is through this gate that the Emperor passes on his way to the Temple of Heaven to sacrifice. Although it is forbidden inside this gate, it is nevertheless allowed outside to cross the sacred thoroughfare.

*Mortality.*—It is impossible, from want of data, to speak with any degree of accuracy on this subject in relation to the Chinese. Very different views are held by foreigners regarding the population of this city, the extremes ranging from 500,000 to 1,500,000. The Chinese themselves have no idea of the population of either the capital or the empire. They have a saying which, from the relation known to hold in western countries between deaths and births, seems to be pretty accurate, that for every 1,000 births there are 800 deaths. The official at every police station knows, or ought to know, the number of families in his own particular district. In fact, by law every arrival in the district, or even a lodger for a single night ought to be reported to the police office and the sanction of the magistrate obtained. Lists of the families of each

district were formerly kept, and corrected each month by the personal inspection of the police, but these lists have long since ceased to be corrected, and are therefore now useless even if obtainable. A correct list of the Mantchu population is obtainable from the offices of the eight banners, but prying curiosity regarding this list is generally resented. If we were to believe the statements made regarding the banner population, calculated as they are from the monthly allowance paid out from the Imperial exchequer, the population of Peking, in bannermen alone, would exceed that of any other city in the world. The error here, and probably the one which has led all writers on the subject of the population of Peking astray, lies in the fact that all Manchus, whether soldiers or officials, wherever serving, are considered as part of the population of the capital.

Deaths are not registered except among the bannermen, and the subsidy received from the Emperor in the case of deaths or marriages among them, ranging from a few taels to as many as one thousand, according to rank, presents a strong motive for registration to the poorer Manchus. As the Manchus form but a small portion of the population, such lists of deaths, even if procurable, would be of little value. Gate passes are required by both Chinese and Manchus to enable them to carry corpses out of the city. As already stated, no interments are permitted within the Tartar city. These gate passes, termed *yang pang* (殃榜) are issued by a class of diviners or geomancers termed *yin yang*, or *yin chai* (陰宅) and *yang chai* (陽宅). These personages pronounce on the feng-shui of houses; when it relates to the houses of the dead or graves, they are called *yin chai*, and when it relates to those of the living, *yang chai*. Without such certificates or others equally valid from the authorities, no funeral can pass the city gates. But these diviners belong to no corporation or society, they are under no surveillance, they act independently of the authorities, and are never required to give in any report. It is only in the case of granting false certificates that they are liable to punishment. All violent deaths or deaths by accident or otherwise on the streets (in the case of natural deaths of beggars the police bury them without ceremony) are beyond their jurisdiction. In such cases an official inquest takes place, and the usual certificate is dispensed with. The diviners refuse to grant certificates in cases of suspicious or unnatural deaths, afraid of information being lodged at the *yamen* by the neighbours, which would lead to an examination and consequent punishment of the *yin yang*. This is the only check which the public or government has upon private crime leading to death. Were these certificates retained at the city gates and made indispensable in all cases, a correct idea of the death-rate of the city could be easily obtained, but they are merely shewn to the porters, and afterwards burnt along with incense and mock paper-money at the grave of the deceased.

But even supposing a correct list of the funerals passing through each of the eight gates of the Northern city to be obtained, this would afford no perfectly safe guide to the death-rate as affected by the season of the year. The dead are not buried at once or after a fixed period in all cases. This is connected with certain superstitious ideas concerning the flight and return of the soul. The lucky season for interment is determined by the geomancer according to the wealth and rank of the family, and strange to say in periods of sevens. In Peking no one is allowed to pass  $7 \times 7 = 49$  days; the usual period for the middle or lower classes is two sevens. Those who wish to retain the dead longer must deposit them outside the city, in a temple for example, as is usually the case. In the case of a member of the Imperial family, there is a special place set apart at *Tien tsun*, a few miles to the west of the city. In the country, of course, no rule is observed, the relatives there keeping them sometimes for years and generations.

Such a list therefore could only be of use as shewing the total number of coffins passing out of the city within a given time; and as interments take place within the walls of the Southern suburb no correct idea could be formed. By some the Chinese city is considered more populous than the Tartar; taking the lowest estimate it may contain half the number of inhabitants of the Northern city.

But another drawback to an approximation towards the death-rate of Peking is the fact that children under puberty, whether intended for the morgues and bullock cart or not, do not require a gate pass. This fact speaks volumes for the absence of infanticide in the capital. Were this horrid custom prevalent here, as has so long been believed, steps would certainly be taken to expose and prevent it. The reason of this procedure, however, resting upon an unexplainable notion, but in accordance with Chinese philosophy, is that



children under this age are not supposed to have the *kwei* or demon developed or completed within them. Until that time the *kwei* is without essence or form, without good or bad qualities. The original purity and goodness of man's nature is thus maintained by the Chinese. How it should be developed at a certain age they do not explain, and why such as have escaped misfortune and calamity should not require death certificates is a matter shrouded in the mystery of Chinese metaphysics.

Except in seasons of epidemics, such as those already alluded to, it is quite unusual to see numerous funerals in the streets of Peking. From the custom of burying, funeral processions when they occur form prominent objects on the streets and strike attention. I have been struck with their fewness in ordinary seasons, and doubtless the same remark will be made by all conversant with the capital.

In speaking of the mortality of this city I ought not to omit reference to exceptional causes, such as the winter residence of 1,000 beggars at the *Yang chi yuen* or Imperial House of Refuge, where the death-rate ranges from 40 to 60 per mensem; also the very numerous class of beggars who live at all times on the streets, and in winter in doorways, with hardly a rag to cover them while the thermometer is near zero. Of course many deaths occur from this cause among this class, and early on a winter's morning it is not very unusual to find dead beggars in the ditches or along the base of the city wall. But there is another fruitful source of mortality here, and I suppose it holds true of China generally, which cannot be compared with anything in civilised Europe. I mean the death-rate among prisoners. There is a very large yearly mortality in the Chinese *yaméns*, especially in those where severe punishments are inflicted. In Peking we find the Board of Punishment,—that place which caused Sir H. PANKES to shudder as he passed within its chained gates, when conveyed there as a state prisoner in 1860. There are also the *yamén* of the Military Governor and the gaols of the two *hsiens* in which Peking is situated. Unless money can be had for bribes not one single comfort is to be had. The prisoners however committed, let the charge be grave, light, or even false and unfounded, or at all events not proved, live, sleep and perform all their functions in the one locality. It is specially made disgusting, in order to drive them to extremes. Friends and relatives are not admitted with food or money without bribing the porters. Language fails to describe adequately the horrors of a Chinese prison. Suffice it to say that there is an overwhelming mortality. Opium smokers without means suffer specially under confinement, and large numbers are carried off by diarrhoea and dysentery.

Some 20 years ago statistics purporting to be derived from official sources in Peking were compiled by some Russian investigators and were afterwards translated and published in the *Shanghai* and *Hongkong* newspapers, in which, if I remember rightly, the population within the city was estimated at 1,500,000, and, including the suburbs, at 2½ millions, while the death-rate ranged somewhere from 2,000 to 5,000 per mensem, being greatest during the spring and autumn months. The estimate then was, for a reason already given, probably too large, and it is self-evident that the city has from that time been rapidly decreasing. The London death-rate is somewhere about 6,000 monthly, with a population at least three times greater than Peking. The two capitals, however, differ materially in many respects, and hardly admit of comparison. The mortality everywhere is greatest among children under five years of age, but here this death-rate seems reduced to a minimum, if we may judge by the large numbers of children of both sexes seen on the streets, even among the poorest classes (and the Chinese, for various reasons which need not be here mentioned, are individually not prolific), and by the fewness of infantile funerals observed in the streets and of bodies of children carried to the morgues to be removed by the bullock cart to the Foundling Hospital.

In speaking of the mortality of any city, and especially of one like Peking, a variety of reasons, in the customs and manners of the country, come in to modify the conditions of population. But these we cannot take time to specify fully. For example, there is the cheapness of living. Rice, flour and the various kinds of millet, everywhere abundant and comparatively cheap, and which form the common diet of the great bulk of the people, afford ample nourishment, as witness the able-bodied coolies and labourers everywhere. (See the interesting case of a prisoner fed solely on small millet at Newchwang, for one month, by Dr. WATSON\*). The children are, as a rule, nursed through the more dangerous period of childhood, being seldom weaned

\* *Medical Reports* No. 3, page 13.

before three years of age, and oftener somewhat later. It may moreover be confidently asserted that on the whole, purer air is breathed and purer food dispensed, even to the poor, than in London. Lastly, industrial, mechanical and commercial enterprises lend their quota to swell the London death-rate, causes quite inoperative here, while on the other hand certain diseases may be said to be endemic here which occur only sporadically in the west, or in epidemics only after long intervals. These among others are considerations which ought to be taken into account in estimating the mortality of Peking as compared with western cities.

The impossibility, for the reasons above stated, of procuring Chinese data of the mortality of Peking, renders it all the more necessary that I should adduce the results arrived at from a careful and personal examination of the Portuguese and French cemeteries, which afford us a list of the Roman Catholic missionaries who have died here during the last two centuries and a half. If I add at the same time the death-rate of foreigners of all nationalities during the last ten years, some idea, however faint and imperfect, may be obtained of the mortality of Peking.

The average age of the 65 foreign missionaries buried in the Portuguese cemetery from 1610 to 1838, is 50 years, and the average length of residence is over 24 years. The average age of the 30 missionaries interred in the French cemetery from 1707 to 1868 is over 60 years, and the average length of residence is 25 years. The comprehensive tables from which these few facts are drawn are omitted, as the results are alone of importance for this Report.

The following Table exhibits the mortality among foreigners, and the diseases of which they died, from 1860 to 31st March, 1872, a period of 12 years. The diseases are noted in the order of frequency.

DISEASES.	BRITISH AND AMERICAN.		FRENCH.		RUSSIAN.		TOTAL.	REMARKS.
	Civilians.	Missionaries.	Males.	Females.	Priests.	Civilians.		
Typhus, .....	3	—	7 priests	5 sisters	—	2	17	All adults.
Phthisis, .....	1	—	1 "	3 "	—	2	7	All adults; one died in Mongolia.
Diarrhoea and Dysentery, .....	2	3	1 "	—	—	—	6	The British were all children under 1 year old except one, 2 years old.
Apoplexy and Softening of the Brain. ....	1	—	2 "	—	1	2	6	Four of these at least were unconnected with climate.
Bronchitis, .....	2	3	—	—	—	—	5	All children, four of them under 1 year old.
Debility—Old age, .....	—	—	3 "	—	—	—	3	
Tubercles Mesenterics, .....	1	1	—	—	—	—	2	Both young children.
Small-pox, .....	—	1	—	—	—	1	2	One adult and one infant.
Heart Disease, .....	1	1	—	—	—	—	2	Disease contracted elsewhere; one died a few days after arrival.
Puerperal Fever, .....	—	1	—	—	—	1	2	
Cancer of Rectum, .....	—	—	1 civilian	—	—	—	1	Disease existing on arrival.
Cholera, .....	—	—	1 "	—	—	—	1	In 1862, history of chronic diarrhoea and intemperate habits.
Scarlatina, .....	—	1	—	—	—	—	1	A child.
Pneumonia, .....	—	—	—	—	—	1	1	An adult.
Murdered, .....	1	—	—	—	—	—	1	A soldier; murdered mysteriously by the Chinese.
Quinsy, .....	—	—	—	1 "	—	—	1	
Carbuncle, .....	—	—	1 priest	—	—	—	1	
Total, .....	12	11	17	9	1	9	59	
	23		26		10		59	

To attempt to draw inferences from the above table, considering the smallness of the foreign population and the comparatively short period over which the observations extend, and to make them applicable, in this proportion, to all foreign residents in Peking and for all future time, would be foolhardy. In some years there may be no deaths, and in others again there may be several. My predecessor, writing in 1863, speaks of two deaths only (apoplexy, 1; cholera, 1) in a population of 100 during two years and a half. But although we may not predicate conclusively regarding the foreign death-rate and its relation to climatic conditions, epidemics, &c., still something may be learned from a perusal of the table.

I have divided the population among the various nationalities for the purposes of comparison, and these again among the two classes of officials and missionaries, the only resident classes represented here and composing the population. It would be interesting to compare the death-rate of the various nationalities here given with the same rate in their respective home countries. Habits of life, &c., may have as much to do with the death-rate as any conditions of climate, if not even more. The Russian mortality, which is here rather large, at least for the period under review, although I understand that it has been much in the same proportion during the last century and a half, is even greater in Russia, and especially in St. Petersburg which is said to be the unhealthiest city in Russia. The British death-rate agrees very well with what is observed in England, taking for example London and 20 other large towns. It is somewhat in advance of the general death-rate of Scotland for the year 1871, (22 per thousand.)

The population, as just stated, numbered in 1862 about 100, now it amounts to about 160. Let us take 130 as an average, which is certainly not too high. A little over one third of this number would represent British subjects, being about equally divided between the two classes given. Another third would include the American and German residents, and the remaining third would be partitioned between the French and Russians, the former being slightly in advance of the latter in numbers. Of the American third, five sixths would embrace the American missionaries and their families, the whole number amounting at present to 42. The chief increase in the foreign population has been due to American missionaries. The German population has never exceeded 8 individuals. In the list above given there were 3 deaths of Germans, 1 adult and 2 children, but being naturalised American citizens they are so reckoned. Besides these, there were 3 deaths of young American children and 1 of an American adult, making in all 7 deaths. Several American missionaries have come here with impaired constitutions, from home or from southern stations in China, who, after a short residence, returned to their native country, or, as in the case of one, to a southern port. In speaking of the low death-rate among the American community it is to be remembered that most are missionaries leading very quiet lives, and many of them single individuals, and that until within the last two or three years, there were no young families. Of British deaths as will be seen, as many as 9 occurred among children.

Placing the average yearly number of British subjects for the last 12 years at 50, and the deaths during the same period, according to the table, at 16, we have a mortality of 2.6 per cent. or 26 per mille. If from the deaths we exclude the case of murder, the case of heart disease, which occurred in a gentleman from Formosa who was forwarded to Peking and not expected to reach it alive, and who died a few days after his arrival, and also the case of apoplexy, the subject of which was epileptic and was seized with an attack while in the act of swallowing food, our death-rate would be reduced to 2.16 per cent., which may be taken as the normal death-rate for the last 12 years.

In the same way, if we place the American average population at 30 for the same period, we have, reckoning 7 deaths, a percentage of 1.9. Of this number one child who died from Brouchitis caught the affection while coming up the river too early in the season.

If we include both nationalities, reckoning 23 deaths, the percentage is 2.395, but if we exclude the 3 British deaths, altogether accidental and not connected with residence here, the Anglo-Saxon percentage is reduced to 2.0, or 20 per thousand, which was the death-rate of Perth for 1871, the healthiest of the large towns in Scotland, and is considerably below Aberdeen (22.5), Leith (23.1), Edinburgh (26), Dundee (27), Greenock (29), Paisley (30), and Glasgow (32).

The Russian death-rate calculated at 10 deaths for the 12 years with an average population of 20 individuals, is equal to 4.0 per cent., exactly twice the Anglo-Saxon death-rate. Unlike the Anglo-Saxon losses, all the Russian deaths have been of adults in the prime of life, which materially adds to the gravity of the rate.

From the table given above it would naturally be supposed that the French death-rate is the highest. The list includes the losses sustained by the Catholic Mission (Lazarist) since 1860, and by the Sisters of Mercy (St. Vincent de Paul) since 1862. From the list which was kindly furnished me I have excluded the 10 sisters who were massacred at Tientsin, and 2 priests who met a similar fate, as well as one who died by an accident on a journey. But even then, the list includes many who neither lived nor died in Peking. In the absence of more correct and minute statistics, I will base my calculations on the deaths of 8 sisters and 2 priests, which, with the civilians, makes a mortality of 12 individuals in 12 years, with an average population for the same period of 30. The death-rate is thus found to be 3.3 per cent.

If we take the average foreign population of Peking to be 130, with a death-rate of 45 persons in 12 years, the percentage will then amount to 2.8, or 28 individuals to every 1000 inhabitants. This would be reduced still farther, say to 2.6 per cent, if we removed from our list all who died by violent deaths or by deaths not in any way connected with residence here.

Although the sanitary condition is, as I have shewn, so far from satisfactory, it is a matter for congratulation that the foreign population enjoys such an immunity from disease. This is all the more wonderful when we consider further that we live in the midst of a large city, and not in a healthy, clean, well-drained concession, apart from Chinese habitations and foul smells, as some of our countrymen do at the ports. The mortality among the French priests, and especially among the Sisters of Mercy, is indeed great and appalling, but we must remember their self-denial and their deeds of charity performed among the destitute and sick and dying outside, and their incessant labours among scores of women and children in the schools on their premises. These kind offices have certainly exposed them in an unusual degree to disease. It will be observed that fever accounts for the majority of the deaths among adults, just as to diarrhoea must be ascribed the majority of the deaths among children. Speaking of the prevalence of fever, it was reported in July 1872 that out of 10,000 troops under the Viceroy of Chihli, as many as 2,000 died of this affection.

In Peking at present there are seven individuals, all missionaries but one, whose united length of residence in China, 10 years of which have been passed in Peking (and in the case of one over 30 years have been spent here) and the remainder in less healthy ports in the south, amounts to 185 years, or 26.4 years on an average. There are three more, two of whom are missionaries, whose average length of residence in China amounts to 14.4 years, about 10 of which have been passed in Peking.

*Prevailing Winds.*—In the months of January, February, October, November and December, N. and N.W. winds prevail. During this period S.E. and S.W. winds rarely occur. In the months of March, April, May, June, July, August and September, winds from the S.E., S. and S.W. are more frequent than winds from the N. and N.W., which last nevertheless also frequently prevail. Before the setting in of rain or snow the direction of the wind is usually E. The N.W. is our cold wind, and comes from the high lands of central Asia and over the steppes of Siberia and Mongolia. A severe blow from this quarter in December will freeze our river in one night. The cold is then so intense that the extremities require to be carefully protected, and the body is usually covered with furs and wadded garments. The Chinese wear ear-caps, and their long and wide sleeves permit of their hands being drawn within, and kept close to the body. By an equally convenient arrangement, these sleeves are made to envelope the mouth and nose. Last year (1871) when the unprecedented rains set in, the wind kept steadily from the S.E., thus carrying along with it the vapours from the Pacific Ocean and China Sea. In such a condition of the city as I have already described, where such abundant sources of noxious effluvia exist, ready to ripen into activity, it is of the utmost moment that we should have winds and that pretty constantly, to prevent their accumulation. No doubt it is bad enough when it blows, but a cessation of wind for any lengthened period would ultimately prove very injurious. Speaking of the evils of stagnation as destructive to health, I would notice a practice already

referred to, which though very objectionable and an unmitigated evil in Peking, yet carries good in it. I refer to the watering of the streets with the foul fluids of the drains, cesspools and domestic urinals, and with dirty water. These collections of decaying organic matter are thus moved, and prevented from accumulating in too large quantities. When thrown on the streets much of the fluid evaporates, but the greater part of it is absorbed by the dry soil. Of course, when it blows, filthy dust is largely inhaled. The nose, eyes and ears are often well filled, but still without any very serious consequences.

*Dust Storms.*—In consequence of the want of rain, we are, in spring, much troubled by dust storms. The present year (1872) has been wonderfully free from such storms, owing doubtless to the great fall of rain last year. They often continue to rage with great fury for several days at a time. Indeed when the ground is unusually dry, the slightest wind causes abundance of dust, and in some spring seasons we are hardly a day without more or less of it. But this is almost always the black dust of our own finely pulverised streets. In summer we have occasionally yellow dust storms, frequently accompanied by thunder, lightning and rain or hail. A most unpleasant one occurred in June 1863 when the thermometer was standing above 90 degrees. The clouds of sand were very suffocating, the heat was so great that the windows and doors could not be closed, and the sensation was like what living in a dusty oven may be supposed to be. In fact during these dust storms it is useless to attempt to shut windows and doors, for the sand insinuates itself everywhere and gradually covers the whole house with a thick layer. These yellow sand storms probably originate far up in Mongolia, some think in the desert of Gobi. They are carried high up by the wind and pass over Peking and are sometimes found as far south as Shanghai. The decks of vessels far out at sea are sometimes covered with this same sand. The sun is usually darkened, and so intense are the clouds that lamps sometimes require to be lit at midday. When the wind abates there is everywhere a copious deposit of yellow sand. Should rain set in during one of these storms, it can easily be imagined that it may rain mud. A severe storm of the same nature occurred on the 5th June 1866. There was a fall of half an inch of rain with hailstones the size of walnuts, formed of three layers—ice, snow and ice. Much damage was done to roofs, trees and grain. Again on the 10th June 1867 with the thermometer at 100°, there was thunder with hailstones and a little rain. The sun was darkened by the dense yellow sand which filled the air.

In the Hospital Report for 1862 is the following passage bearing upon this subject:—"In the winter there were some sand storms of great violence. The wind blew strong from the north-east and brought with it great clouds of sand. The barometer always fell before the wind began to blow, and after the wind had been blowing for some time the whole atmosphere became filled with sand, obscuring the sun and darkening the daylight considerably. This sand found its way into the houses and covered everything. The quantity of sand on some occasions was so great that it lay like snow in the courtyards and other inclosed places. These sand storms were most violent and disagreeable during the winter, but were most frequent during the months of March and April, when they occurred sometimes twice a week. Occasionally the commencement of one of these sand storms could be witnessed from the city walls, and it was a very extraordinary sight to see two great clouds of sand, rolling as it were over the city and shrouding all the objects around in their progress, until the whole place was enveloped in a cloud of dust."

*Temperature.*—The Peking climate includes the extremes of heat and cold. As a rule, where the cold is excessive, the rise of temperature in spring and summer is sudden and intense. As will be seen from the accompanying table, the temperature ranges from 100 degrees and above in summer, to zero and below it in winter. In both summer and winter we are about 10° warmer than Newchwang, the most northerly of the treaty ports. The freezing of the Peiho does not usually take place before the middle of December, and the river is again navigable towards the end of February or beginning of March. The seasons here may be thus divided: summer and winter, four months each; spring and autumn, two months each. If we agree to represent climate above 70° F. as hot, then we have it so in Peking in the shade facing the north from the middle of April,—beyond which date the thermometer seldom falls below this—to the very end of September. Our warm season, that is with the thermometer ranging between 60° and 70°, extends from a little beyond

the middle of March to the middle of April, and generally during the whole of October. Our cool season i.e. when the thermometer ranges between 50° and 60°, extends from the latter end of February to the middle of March, and the first half of November. All below that (50°) will embrace from the middle of November to towards the end of February. Though the changes of temperature are great and often sudden, yet from the sandy nature of the plain, and the weather in general being pleasant and dry, there being little rain and much sunshine, the situation may be considered, in this respect at least, a very healthy one. There is a health-giving influence in a bright atmosphere and a cloudless sky which is not always fully appreciated. Light has a higher power on the animal functions than we are apt to suppose. We observe the truth of this abundantly in nature. It is on this account that *sun baths* are recommended by some practitioners to delicate children. Cases of heat apoplexy, coup-de-soleil, are here unknown; cases of frostbite occur occasionally among the very lowest and most unhealthy of the beggar class. Owing to an increase of the sensibility of the skin, there is of course in summer a considerable increase of transudation, and consequently the presence of prickly heat. But this troublesome affection is either altogether absent or reduced to a minimum among the Chinese by their practice of washing and bathing with warm water. Warm baths, let me add, are the only safe ones in all seasons. The Chinese long cotton robe is admirably suited for summer use; it conducts heat slowly, and on the other hand, when the temperature falls, the cotton abstracts more slowly the heat of the body.

The winters are very bracing and dry. The ground appears not to contain a drop of water, all being brown and dusty, and yet the change from winter to spring is very sudden. Notwithstanding the lack of rain and snow, the increasing heat of the sun soon takes effect on the vegetable world. Very frequently not a drop of rain falls from November to May, and this tells injuriously on the wheat crop.

I subjoin a table of the mean temperature of the air, the result of 10 years' observations, viz., from 1862 to 1871 inclusive.

TABLE shewing the average Temperatures (Fahr.) during the different months from 1862 to 1871 inclusive, taken at Peking:—

1862-1871.	MAXIMA.		MINIMA.		AVERAGES.		TOTAL RAIN FALL.		REMARKS.	TOTAL SNOW FALL.	
	Day.	Night.	Day.	Night.	Day.	Night.	Days.	Amount.		Days.	Amount.
January, .....	44.1	24.1	22.9	4.1	34.4	13.9	1	a little.	...	12	8¼ in.
February, .....	52.5	31.8	28.2	9.3	39.6	19.9	3	½ in.	...	25	15¼ "
March, .....	68.6	44.7	38.4	18.4	51.5	30.0	15	2 "	...	20	5½ "
April, .....	84.1	57.3	49.7	30.5	67.7	43.5	25	2½ "	4 days rain not given.	4	2½ "
May, .....	95.0	67.6	67.0	44.4	82.8	56.3	46	5¾ "	10 days rain not given.	...	...
June, .....	100.4	75.7	76.4	56.6	89.9	65.7	87	20¾ "	17 days rain not given.	...	...
July, .....	99.6	77.7	78.1	61.8	90.6	71.0	106	55¼ "	1863 omitted, and 12 days rain in 1862 not given.	...	...
August, .....	95.1	76.3	75.5	56.2	87.1	68.3	86	46¾ "	Do. do.	...	...
September, .....	87.55	67.6	64.7	46.0	76.3	57.8	62	27 "	1868 omitted, and 9 days rain not given.	...	...
October, .....	74.1	55.5	51.5	32.3	64.8	44.5	36	6¼ "	1867 omitted, and 7 days rain not given in 1862.	2	3 in.
November, .....	57.7	41.5	32.4	14.5	46.0	28.3	17	3¾ "	...	3	2 "
December, .....	45.8	27.8	23.9	7.2	35.3	17.3	2	a little.	...	12	11¼ "

The reader is left to calculate the mean fall of rain and snow, and the mean number of days on which rain and snow fell for each month during the ten years.

The following Table contains the results in relation to the temperature of the air after 11 years' observations, taken at the Russian Observatory, and kindly supplied to me by Dr. FRITSCH. The temperatures are given in Reaumur's scale which may be converted into Fahrenheit by multiplying by

9, dividing by 4 and adding 32. The mean temperature for the year, calculated from this table, is therefore 9.36° R., or 11.70° C.

MONTHS.	5 A.M.	7 A.M.	9 A.M.	11 A.M.	1 P.M.	3 P.M.	5 P.M.	7 P.M.	9 P.M.	MEAN TEMPERATURE
January, .....	- 5.79	- 6.17	- 4.37	- 1.80	- 0.18	0.27	- 1.01	- 2.18	- 3.39	- 3.12
February, .....	- 3.73	- 3.90	- 1.64	0.74	2.26	3.12	2.03	0.24	- 0.84	- 0.77
March, .....	0.84	1.08	3.72	6.01	7.59	8.18	7.33	5.40	4.20	4.21
April, .....	6.61	7.73	10.43	12.55	14.30	14.74	13.89	11.89	10.59	10.50
May, .....	11.72	13.49	15.85	17.74	19.29	19.24	19.08	17.18	15.57	15.53
June, .....	15.57	17.32	19.25	21.18	22.47	22.74	22.12	20.42	18.73	18.92
July, .....	18.03	19.27	20.74	22.25	23.20	23.43	22.93	21.55	20.31	21.51
August, .....	16.93	17.85	19.73	21.27	22.23	22.33	21.69	20.14	19.16	19.44
September, .....	12.83	13.54	16.00	17.82	18.93	19.29	18.36	16.69	15.45	15.74
October, .....	6.62	6.85	9.58	11.86	13.20	13.58	12.29	10.37	9.32	9.71
November, .....	0.69	0.57	2.71	5.00	6.32	6.52	5.04	3.83	2.86	3.29
December, .....	- 3.96	- 4.16	- 2.53	- 0.17	1.14	1.29	- 0.19	- 1.43	- 2.17	- 1.66

According to Dr. FRITSCHÉ's calculations, the coldest day of the year is January 13th, and the warmest July 21st. During the last ten years the thermometer has only twice sunk below zero, viz., January 1862 (-6°), and January 15th, 1867 (-1°); the average according to the table is 4.1°. It may be interesting to some to have a table of the coldest and hottest days and nights for the last eight years:—

YEARS.	COLDEST DAYS.	COLDEST NIGHTS.	HOTTEST DAYS.	HOTTEST NIGHTS.
1864, .....	December 11th, ..... (8°)	January 15th, ..... (4°)	July 16th & 18th, ... (102°)	July 18th, ..... (80°)
1865, .....	February 11th, ..... (16°)	February 11th, ..... (2°)	June 24th, ..... (104°)	" 3rd, ..... (79°)
1866, .....	January 7th, ..... (26°)	January 18th & 19th (9°)	" 23rd, ..... (104°)	August 14th, ..... (81°)
1867, .....	" 14th, ..... (19°)	" 15th, ..... (-1°)	July 8th, ..... (104°)	July 19th, ..... (81°)
1868, .....	December 15th, ..... (20°)	December 29th, ..... (4°)	June 24th & July 26th (98°)	June 24th, ..... (78°)
1869, .....	" 6th, ..... (25°)	" 5th, ..... (6°)	July 16th, ..... (102°)	July 18th & 23rd, ... (77°)
1870, .....	February 14th, ..... (23°)	January 13th, ..... (3°)	June 13th & 14th, ... (102°)	July 29th, ..... (83°)
1871, .....	January 22nd, ..... (19°)	February 19th, ..... (5°)	May 31st & June 8th, (100°)	July 22nd & Aug. 3rd, (77°)

The thermometer reached or passed 100° during these eight years thus:—

In 1864, four times, .....	in July.	In 1869, once, .....	in June.
" 1865, three " .....	" June.	" 1869, three times, .....	" July.
" 1865, once, .....	" July.	" 1870, once, .....	" May.
" 1866, " .....	" June.	" 1870, four times, .....	" June.
" 1867, " .....	" June.	" 1871, once, .....	" May.
" 1867, six times, .....	" July.	" 1871, twice, .....	" June.

*Rain.*—The subjoined table shews the annual fall of rain and snow, and the number of days on which rain and snow have fallen during the years specified. It will be seen that the average annual fall of rain is about 22 inches, and that of snow 3.79 inches. This agrees very well with the calculations of the Russian astronomer who makes the annual fall amount to 26 inches, about as much as falls in North Germany, or Aberdeen and Leith in Scotland.

YEARS.	RAINY DAYS.	AMOUNT.	SNOWY DAYS.	AMOUNT.
1862, .....	60	Not given.	7	4½ inch.
1863, .....	57	25¾ inch.	3	2 " "
1864, .....	49	20 " "	9	6½ " "
1865, .....	44	15½ " "	12	4½ " "
1866, .....	46	10 " "	9	1½ " "
1867, .....	47	15¼ " "	9	6 " "
1869, .....	54	16 " "	3	¼ " "
1870, .....	58	30½ " "	5	6½ " "
1871, .....	52	44 " "	9	2½ " "
Total for 9 Years,...	467	176¾ inch.	66	34¾ inch.

The fall of rain occurs almost exclusively in the months of June, July, August and September. For five months of the year, November to April, hardly any rain falls. The wheat harvest is over by the end of May, and then the heavy rains which succeed enable the farmers to get into the ground the creeping yam, sweet potato, millet and other food plants for the second crop, which under the influence of the rain and tropical heat, soon spring up and grow to maturity. The annual amount of snow that falls at Peking is very small.

Countries where it seldom rains are generally the healthiest, for malarial fevers are unknown. When the barometer is high we feel vigorous and cheerful, and such is the winter weather of Peking; when it sinks we are oppressed with low spirits, and of this sort of weather we experience very little in Peking. When it continues long without sunshine or wind, as for example last year (1871), then we, too, during our wet season, feel everything damp, walls of houses, paper, bricks; and metallic articles freely oxidise.

In regard to the clouding of the sky, the months of January, February, November and especially December are the clearest, a quarter only of the whole sky being covered; then come the three months August, September and October, in which about a third of the heavens is overcast, and lastly the months of March, April, May, June and July in which half of the sky is covered.

TABLE of the Clouding of the Sky.

MONTHS.	1870.	1871.	MEAN.	MONTHS.	1870.	1871.	MEAN.
January, .....	2.8	2.1	2.5	July, .....	6.0	5.4	5.7
February, .....	2.7	2.9	2.8	August, .....	3.9	5.2	4.6
March, .....	4.0	1.9	3.0	September, .....	3.2	5.2	4.2
April, .....	5.3	2.8	4.0	October, .....	3.6	2.7	3.1
May, .....	4.9	3.8	4.4	November, .....	2.9	1.8	2.3
June, .....	5.7	4.5	5.1	December, .....	1.7	2.4	2.0

*Epidemics.*—I have already (*Medical Reports* No. 1., pp. 114 *et seq.*) treated of the epidemics of small-pox and diphtheria which have visited the capital during the last ten years. It now only remains to refer to those not hitherto mentioned. The only epidemic of cholera which visited Peking during the above-mentioned period, was in the summer of 1862. It lasted about two months, and is supposed to have carried off about 15,000 persons, or, estimating the population at a million and a half (probably a rather large estimate), about 1 per cent. It was first heard of at Taku, then at Tientsin, where it was very virulent and exceedingly fatal. It followed the course of the river, attacking the various towns on the banks, and lastly reached the capital. The disease broke out first in the southern city, but soon spread to the northern. When it had entirely left the latter city, many fatal cases still occurred in the former, and principally near the gates leading to the Tartar city. At these points there is a dense population, and according to the usual habit of the people all the offal and filth from their houses was thrown into the city moat. In summer the stench at the bridges over the moat is very great. This epidemic was most probably the precursor of the one which visited Europe in 1865. The European epidemics of 1832, 1847, and 1865 are all supposed to have come from India. A severe epidemic of cholera occurred in China in the year 1821 (the first of T'UNG-KWANG.) The last and probably the most fatal was the one above noticed in the first year of T'UNG-CHI, (1862).

Cholera has been known in China, as in India, from time immemorial. It was described 2,500 B.C. by the very name which it now bears, viz. hwo-luan (霍亂), an expression meaning something huddled up in a confused manner inside the body and which is evidenced by the vomiting and purging. No mention is made by any of the numerous authors I have consulted as to its epidemic character, which has characterised the visitations of this affection in India, and latterly in Europe since 1817.

The more important observations of the Chinese writers are here added. I omit everything connected with their peculiar views of cosmogony and philosophy, with which everything in China is made to square. In the *Neiching*, a supposed work of the Emperor Hwang-ti (2,500 B.C.) cholera is said to be due to the development of three pent up airs, which give rise to vomiting and purging. These are developed by irregularity in the seasons, the prevalence of wind, and the absence of rain, whereby what is eaten remains



undigested; the body consequently becomes heavy, the belly painful, and spasms attack the sinews. TSUN-TSE-MIAN, an author of the T'ang dynasty (A.D. 620-907), attributes it to food and not to demons. CHU-TAU-HSI, a writer of the Yuen dynasty (A.D. 1280-1368), ascribes it to retained ingesta aided by certain external influences, such as cold, by which the male principle (*yang*) ceases to ascend, and the female (*yin*) to descend, and the diaphragm is drawn down. This writer scouts the idea of its being caused by evil spirits. He is inclined to attribute the disease to the want of harmony between food and drink. He says this has always been the opinion of the celebrated doctors and the people of China. Another author, LI-TING of the Ming dynasty (A.D. 1368-1644), in his work entitled *I-hsiieh ju mên*, speaks of a feeling of dullness, and the presence of fire (inflammation) inside while experiencing the sensation of cold outside. On this account, in one hour the two vital principles get confused and so the disease sets in. He says the root of the disease certainly lies in inconsiderate eating and drinking, and thus he accounts for the extremes of damp and heat internally and the irregularity of the movements of the viscera, thus causing vomiting and purging. He ascribes it principally to heat, because it prevails most in summer and autumn and very rarely at other times. The celebrated surgeon Hwato of the After Han Dynasty (A.D. 221-265) also attributes it to errors in diet, repressed perspiration, irregularity in eating, ebullitions of anger, travelling in carts or boats, and thus in one way or another injuring the movements of the stomach. He states it as his firm conviction that if medicines are not promptly administered, the patient must die. CHANG-TSE-HO, of the Chin dynasty, immediately preceding the Yuen, asserts that cholera is the result of a combination of wind, water and heat. The liver, he states, fears wind, the stomach water, and the heart heat; the liver governs the tendons, and if the malady be severe there are consequently cramps; the vomiting is caused by the heat, for the heart's heat ascends; purging is owing to the stomach having come under the severe influences of water.

In the *I-hsiieh-cheng-chwen*, a work by HIUNG of the Ming dynasty, the symptoms of cholera are thus given:—instant pain in the abdomen, vomiting and purging; the body very cold and very hot; vertigo. If the heart first experience pain there is first vomiting; if pain in the abdomen first sets in then there is first diarrhoea; when both are painful at the same time there is simultaneous vomiting and purging with severe cramps; should these spasms attack the internal viscera the patient immediately dies.

Chinese writers divide cholera into two kinds, the wet and the dry. By the latter form is meant the absence of vomiting and purging, it is considered the most fatal form. In this kind heart and belly feel full just as if some demon had gained admission. Unless vomiting is brought about the patient is sure to die. The treatment in this case consists of prescribing an emetic of salt and ginger to which is added two bowlfuls of children's urine. After free vomiting has been induced, the further treatment consists in administering such infusions as cinnamon, arrowroot, orange peel, the fruit of the *cydonia japonica*, &c. The various modes of treatment are discussed under emetics, the actual cautery, acupuncture, and the moxa. The contraindications are added, such as the small cereals, rice gruel, &c. Rice water is supposed to be immediately fatal in this disease. After the vomiting and purging have ceased, it may, however, be cautiously given. As to prognosis, it is laid down that medicines may be given with hope of a cure when there are cramps, pains in the abdomen and four extremities, cold, with a quick pulse; but it is unfavourable in the highest degree when there is a weak pulse, retraction of the scrotum, and the tongue thick and curved. Various remedies and recipes are added, such as salt, soot, water beaten in a hole in the ground and allowed to settle, which, it is said, is invariably sweet, rain and ordinary well water boiled and mixed, ginger, fructus *cydoniæ japonicæ*, rice, barley, the saliva and excrement of an ox, &c., &c.

An epidemic of jaundice visited this district in the last year of HIEN FENG's reign (September and October, 1861.) This is rather a peculiar disease to appear as an epidemic. Its cause was probably the sudden change from hot to cold weather, which is not unfrequent at this season. Each spring and autumn, especially the latter, cases of this affection present themselves. The epidemic of 1861 was reported as prevailing also in the two provinces to the west of Chihli. It is unnecessary here to explain how sudden changes in temperature cause such a disease. In the above year 370 cases of this affection applied at this hospital. It was generally slight, and readily yielded to treatment. Some of the cases were accompanied by much pain and fever and in several of these anasarca supervened. In the Hospital Report for that

year it is said that the treatment consisted of purgatives of one kind or another according to circumstances, and occasionally a blister over the liver. The people seemed to appreciate the method of cure adopted, as so many of them came for relief. The hot days and cold nights of the autumn and also the great difference of the temperature on calm and on windy days, cause such changes in the circulation of the liver that it becomes inactive after the excessive stimulation of the heat. At the time of the change from hot to cold weather, perspiration is suddenly checked, the blood is thrown from the surface of the body upon the internal organs, especially the liver, and this enlargement of its vessels makes it inactive for a time, until it is enabled to adapt itself to the circumstances, and resume its usual or accustomed functions.

In the 7th year of T'UNG-CHI (1868) there was a severe epidemic of typhus fever. Typhus, like small-pox, is hardly ever absent, but there are seasons, of which the above was a remarkable one, when it rages more virulently.

In the spring of each year there is always more or less of measles, and there seems to have been a kind of epidemic of this affection in the spring of 1866. A similar epidemic was reported from the mouth of the Amoor.

*Concluding Remarks on the Climate of Peking.*—It might be supposed from the physical conditions of Peking which I have attempted to describe, that fevers and all manner of epidemics would be most fatal. Fevers and epidemics generally are, no doubt, fruitful sources of death here, but the most remarkable thing is that with all our filth, dirt and smells—and people in the west can form no notion of what they are, for they almost defy description—there is wonderful immunity even from fevers. If bad smells alone created fevers, there ought to be no immunity from these diseases in Peking.\* The police or scavengers employed to water the streets ought to be the class most affected, whereas, leaving out the opium smokers among them, they are among the healthiest and most robust of our population. The beggars, a numerous class, sleep on the streets as already stated, nearly all the year round, congregate in the very centres of pollution, and even to some extent, contest with the dogs priority of claim to the refuse of the dunghills. Still they survive and flourish, and most of them—at least the strictly professional ones,—look fat and sleek.

To add to this picture of filth, I might further inform the reader that we boast of no public latrines. The male portion of the inhabitants squat on the streets after dark, very many too during the day, and that sometimes in the most crowded thoroughfares. One of the greatest of our nuisances is the removal of this filth in small barrows, through the public streets at all times of the day. It is dried and stored in empty places, either within the city or immediately outside the gates. The most polluted places are generally the mouths of lanes, and waste places or tumble-down or unoccupied shops or houses. A favourite place is the ruinous police stations which are so numerous on the public thoroughfares. No matter how respectable the lane may be, the opening into it is generally the resort of the locality. These lanes are provided at each end, for the most part, with gates, which were intended to be shut at night for greater security, but are now generally in such ruinous condition that they are utterly useless for the purpose for which they were originally intended, although they subserve in an admirable degree the other purposes referred to.

Notwithstanding this revolting description, after an experience of more than eight years, I am led to believe that the climate is not an unhealthy one. It is true that certain diseases of the lungs occur, owing to the great changes of temperature in the spring and autumn months, and the severe cold of winter. Phthisis, asthma, bronchitis and hæmoptysis prevail pretty extensively, although the latter affection is in very many cases unattended with fatal results, and is not looked upon as the serious affection we are accus-

\* The sanitary legislation of Western cities is based upon the one idea that disagreeable and offensive odours are necessarily deleterious to health. The condition and mortality of Peking, I think, would seem rather to explode this belief. The removal of night soil may be considered most destructive to health, yet here, there being no system for carrying off sewage or scouring drains, the entire night soil of the city is transported during the day, through the most crowded and sometimes narrow thoroughfares. We are obliged to pass certain localities at all times with closed nostrils, while hundreds of people continually live in and around and above these open cesspools and yet manage to look well and healthy. Many diseases prevail here as in the west, without the agency of this reputed cause—noxious odours; and the causes exist at all times here without producing such diseases.

tomed to think it in the west. On the whole, owing to the dryness of the atmosphere, the sandy and consequently absorbent and deodorising nature of the soil, (for Peking may be aptly compared to a vast closet on the dry-earth system) and the almost constant sunshine, the average health is good. I believe that Europeans can enjoy a full share of health here and be as well as in their native land if not better. Many persons have told me that they were hardly ever well in Europe, while here they had scarcely been a day ill. Mr. LOCKHART, than whom no one has had more experience of the climates of the various ports of China from Canton to Peking, states:—"The amount of sickness among Europeans is, I think, decidedly less, compared with the number of the individuals, than in any other part of China in which I have resided. During the two years and a half that I have lived in Peking I have had the chief number of European residents, amounting to about 100 altogether, under my care, besides a large number of visitors, and for one year I had entire charge of the whole. Only two deaths have occurred during the above period, one from cholera during the epidemic of last year (1862), the sufferer being considerably weakened by chronic diarrhoea, and the other from apoplexy; which strengthens the supposition that the climate is not insalubrious. I have also noticed that the stage of convalescence after attacks of various illnesses is short. Patients soon recover their strength and vigour. There is also great advantage in being able to send invalids and convalescents to the range of western hills or beyond the Great Wall for change of air and variety of scene. This in great degree compensates for the want of ready access to the coast, under such circumstances of health as require change of place. The advantages of having access to the elevated plateau of Mongolia are very great. The change from the climate of the extensive and low-lying valley of Peking to the lofty grass lands of that region is one that has a very powerful influence, the fine clear air blowing over the upland plains being very exhilarating. All those who have gone into Mongolia on hunting excursions in the autumn have been much charmed with the freshness of the climate, where they can remain on horseback almost all day without undue fatigue. The change of climate and the excitement of hunting the hwang-yang or antelope which abounds there, have a powerful effect in re-invigorating the system, after the debilitating influences of the tropical heat of the summer."

Thoracic complaints predominate here over abdominal, although from our great extremes of heat and cold we seem to be exposed to the diseases peculiar both to tropical and cold climates. With the exception of the three northern ports,—Chefoo, Tientsin and Newchwang,—we resemble Europe more nearly than any other place in China does. As medical writers in tropical countries speak of the two hemispheres being divided into eastern and western by the meridional line, so they likewise divide the body by means of the diaphragm into the chest and abdomen. By this division thoracic complaints predominate in the western and abdominal in the eastern climates. Such a division does not hold good here; but there does seem to be an antagonism, as shewn by the French surgeons in Algeria, between phthisis and ague. Where the latter prevails the former is all but absent, and *vice versa*. As a general rule ague is seldom seen here, but various diseases of the lungs prevail. The soil of this region, as already stated, is sandy, and there is little marsh or damp ground, consequently ague is seldom met with (I except of course last year, when it prevailed largely owing to the great floods), and there is less dysentery here than in the south of China.

I have observed towards the end of March and during April, a disposition to sore throat, and especially tonsillitis. Mumps also are not uncommon at this season. Strong N.W. winds prevail at this time, and doubtless account for this condition. The presence of ozone, which is known to be most abundant during storms and changes of weather, is also supposed to favour the development of such inflammatory affections. I have noticed also that persons afflicted with dyspepsia, diarrhoea, dysentery, languid circulation, cold extremities, nervous debility, complaints contracted at Shanghai and other places in south China, have got on better here than in Europe or America.

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E.—Dr. George SHEARER's Report on the Health of Kiukiang  
for the year 1872.

*Abstract of Thermometrical Observations.*

THE following thermometrical observations taken within doors, in a fireless room with a northern aspect, at the hour of 8 A.M., must be accepted for what they are worth. Without pretending to scientific accuracy, they give a good general idea of the prevailing temperature from month to month, together with the more conspicuous meteorological phenomena. The mean temperature of the 24 hours is approximately obtained by taking that at 8 A.M.

1871.

- January 35°. ?  
 February 35°. with considerable falls of snow and hard frost towards the middle of the month.  
 March 45°. Rain for 10 days with one storm of thunder and lightning. River risen 16 feet by the 20th of the month.  
 April 59°. Rain, 11 days; 1 tempest; 3 thunder storms. Thermometer stood at 74° several days.  
 May 70°.  
 June 81½°. Heavy rain 4 days; 9 days of storm or breeze from the N.E.; 9 days oppressively close and hot.  
 July 87°. 2 hurricanes; 4 breezy days; 4 days of thunder and lightning. 94° and 97° recorded on several days.  
 August 86°. 3 days of high wind; 5 of heavy rain.  
 September 80°. 2 days rain; 8 of fine N.E. breezes.  
 October 68°. 3 days rain; 9 of fine N.E. breezes.  
 November 55°. 2 days rain; 2 of fine N.E. breezes. On the 14th a storm from the N.W., accompanied by a heavy fall of snow: it was felt in Shanghai precisely 24 hours after.  
 December 44°. Fall of snow on the 1st. High N.W. winds, 2 days; sharp frost. Thermometer at 38° 3 days.

1872.

- January 39½°. Falls of snow towards middle and end of month; high winds on 20th and 21st; ice in bedrooms on 22nd—24th.  
 February 40°. Thaws and heavy rains. Little frost or snow throughout the month.  
 March 55½°. Fall of snow on the 3rd and 4th; the hills again dusted with snow on the 29th. Heavy rains and sultry weather; temperature averaging 60° from the 10th. The magnolia, peach, cherry, mezereon, fairy columbine and star of Bethlehem blossoming as early as the 15th of the month. On the 21st, heavy storm of thunder and lightning out of a clear sky, and on the 25th and 26th a furious tempest from the south, with scorching heat. Afterwards wind from the N.E.  
 April 65¾°. It rained on 17 days; thunder and lightning on 4 days; high winds, variable, 4 days.  
 May 73½°. Rain, 10 days; thunder and lightning, 2 days.  
 June 78°. Highest registered temperature within doors 86°. Rain for 15 days successively from the middle of the month. Water over the bund on the 22nd.  
 July 88°. Several terrific storms of thunder and lightning, and three raging hurricanes, the night temperature varying but slightly from that of the day.  
 August 88°. The temperature was frequently 94° and 96° in the shade in the afternoon. 3 days of rain; 3 of high wind. On the 20th the chastened mellow light of autumnal mornings first remarked.

September 79°. Fresh N.E. breezes during 10 days.

October 69°. N.E. breezes till 15th, then N.W. till 27th, then again N.E. Sudden alternations of temperature within a range of 10° or 12°.

November 56°. High N.E. breezes for 10 days; hoar frost on the mountains, 2 days. No rain. Mornings and evenings chilly, even severely cold; midday heat equal to that of an English summer.

December 44°. Mild weather, with the mercury above 50° during the first half of the month.

It will be seen by comparing the above tables that a considerably higher temperature prevailed throughout 1872 than 1871, giving a mean excess of 2½° to each month. Last summer was a long and trying one, though not insalubrious as respects the foreign residents. The autumn was remarkable for an epidemic of malarious fever of most malignant character, amongst the natives, in the districts of Lin-kiang and Suy-chow, south of the Poyang Lake, which is reported to have decimated the population. In the town of Lin-kiang at one time coffins enough could not be obtained to bury the dead. During the autumn numerous cases of diarrhoea, dysentery, choleraic diarrhoea and intermittent fever were treated here, but nothing more than common.

I have examined the sediment from the annual floods for microscopic organisms, as also the dust of sand storms, which occur but rarely here and then only in winter, but without success, so that I cannot yet put faith in the theory which traces aguish attacks to the inhalation of vegetative germs generated in marshy localities.

Three cases of fatal hæmorrhagic apoplexy occurred in natives during the last two years, all of them well-to-do people, well fed, obese subjects.

One case of solar or heat apoplexy occurred in one of the sailors on board H. B. M. gunboat *Leven*, but made a good recovery.

Of cases requiring surgical treatment the following may be named:—

*Synovial disease of knee and elbow joints, 5 cases; fistula in ano, 6; necrosis of lower jaw, several cases; dislocation of the shoulder; dislocation of the elbow; dislocation of the lower jaw; fracture of the tibia, 2 inches above the ankle joint; fracture of the first metatarsal bone by direct violence; hydrocele, several; complete division of the tendo Achillis with laceration of parts, treated with carbolic acid dressings, cure complete within about 6 weeks; amputation of the thumb; double harelip, &c.*

A man, aged 52, having fallen from a tree sustained the following injuries: fracture of left radius, fourth rib on the left side, right collar bone and femur (intracapsular).

*Non-syphilitic enlargement and suppuration of the glandulæ concatenatæ et submaxillares in a man aged 35.* The glands on the right side of the neck suppurated and burst last year, healing up spontaneously but leaving a dense cicatrix resembling that following burns, with a spur running underneath the chin to join a mass of sinuses and discharging cloacæ overlying diseased glands on the left side of the neck. The function of several of the glands is probably destroyed or to a considerable extent impaired. The affection is singular in a man of his age, being, as far as can be made out, unconnected with any dyscrasia. Codliver oil and iodine occasioned considerable diminution in the bulk of the glandular mass, but another large abscess formed and burst under the chin during the summer, and the tumefaction when last seen was still excessive.

*Erectile Tumour in the left eyebrow, removed by ligature.* In the immediate neighbourhood the hair follicles were distended by a regular growth of tufts of hair, 10 or 12 in each follicle.

*Incipient disease of the hip joint.* A boy, aged 6, had complained of severe pain in the right knee, on its outer aspect, for some time; the hip was somewhat swollen and stiff; pressure over the trochanter occasioned much pain; the fold of the nates was obliterated, and the limb was bent at the knee and advanced forward. Absolute rest was enjoined, full nourishment with codliver oil, and passive exercise in the open air, and the external free application of iodine over the hip joint. The patient was fully 6 months under treatment, and repeated blisters of large size were raised within that time, when the cure was so far advanced that he could walk along the floor without pain or limping while the limb maintained its proper length.

*Fracture of the alveolar process of lower jaw, &c.*—A boy, aged 12, having fallen from a height upon a block of stone, smashed out 6 teeth in the upper and 6 in the lower jaw, 4 of the latter, still compactly fixed in the alveolar process, being driven in under the tongue. It was found impossible to retain the fragment in position, even supposing there had been no fear of necrosis; the attachments of mucous membrane were therefore cut through, and the fragment removed. The ducts of the sublingual glands were observed spouting clear fluid from the excessive irritation, and it was necessary to twist one or two small arteries to arrest bleeding.

*Phagedænic ulcer of the thumb*, exposing the extensor tendons, and exhaling a horribly fetid odour, of 15 days duration. It arose from a prick with the bone of a pig which died of some internal disease, and may be regarded therefore as a case of poisoning with animal virus. The abrasion at first gave rise to a blister, then to a spreading ulcer, and finally to sloughing of the sheath of the tendons. After carefully removing all the dead tissue I used carbolic acid dressings, and the man finally recovered with a stiff distal joint.

The true *modus operandi*, as I deem it, of carbolic acid was well exemplified in this case. The acid instantaneously forms a perfect film of coagulated albumen and fibrin, which prevents the entrance of external floating germs, and affords protection to the plastic processes going forward in the tender granulating surface beneath. The oil possesses, no doubt, both stimulant and antiseptic properties also, but its main virtue, I believe, consists in producing chemically a protective film, impervious to the air and capable of following and adapting itself to the sinuosities and recesses of every breach of surface.

*Four cases of Cancrum Oris.*—An infant, aged 2 years, was brought to me with extensive sloughing of the upper lip and right cheek, including the cartilage of the nose. It was only of 2 or 3 days duration, and began with pain and swelling of the mucous membrane. The child had suffered from quotidian ague for 20 days, and was still more or less feverish. It would probably die within 10 days. I did not attempt any treatment. In a second case, also an infant, destruction of the upper lip and nose took place within 10 days, after a 3 days' attack of dysentery. Is this tendency to softening and destruction of the tissues in intermittents and dysentery to be ascribed wholly to mal-nutrition, or partly also to the lethal effects of the blood poison? In any case, why the special liability of the facial tissues? The third was a farmer's son, aged 7, who 2 months before had contracted ague and fallen into a low state of health, with more or less fever and wasting. A month before I saw him, foetor of the breath, and ulceration of the inside of the cheek had been observed; bye-and-bye a black spot became visible on the cheek externally, the teeth on that side began to drop out, and at length fragments of the jawbone. I found the child in a state of stupor from exhaustion; the whole cheek gangrenous, and death evidently the only possible and much to be wished for conclusion. He died next day. The fourth was a young child from the country. The whole upper lip and nose was one mass of black, fetid slough, the nares, palate and cavity of the mouth being exposed and forming one general cavity. Supposing the disease arrested and cicatrization obtained in these cases, the deformity would be so frightful and the inconvenience so great that life would be no boon to the victims. The results of treatment are not very encouraging in this class of cases, even when seen in the early stage. I should like to know what are the exact medical ethics in such cases.

#### I.—GROUP OF CASES OF ENTHETIC DISEASES.

1.—*Chronic Epididymitis and Orchitis* of large size and 6 months standing, secondary to an attack of gonorrhœa with sympathetic bubo. During the employment of the ordinary discutient treatment, which effected considerable improvement, evidence of the existence of ulceration in the prostatic portion of the urethra near the entrance of the vasa deferentia was obtained, and gentle cauterisation of the affected part with nitrate of silver was attended with the best results.

2.—Primary venereal ulcer and suppurating bubo, complicated by attacks of low aguish fever with profuse delirium and prostration of strength.

3.—Swelled testicle, complicated with hydrocele, gleet and stricture. The case did well.

4.—Synovial swelling of the left knee joint with nodes on the left tibia; weakness and swelling of the left ankle, and general ositic pains.

5.—Youth, aged 21, who has suffered complete destruction of the uvula and bones of the nose, with flattening of the nose, the nostrils being almost obliterated, and syphilitic enlargement and ulceration of the tonsils. The disease commenced in his throat when he was 12 years old; how it originated is a mystery, seeing there is neither history nor trace of syphilitic disease on the genitals, but on the contrary, testicles, pubic hair, &c. are in a state of feeble development. This is the second or third time he has been treated by me for dangerous engorgement and ulceration of the tonsils and fauces with aphonia, threatening extension to the larynx, and suffocation. There is no reason to suppose that he ever had a particle of mercury in the treatment of the disease, yet here is an instance where the ravages of the syphilitic poison pure and simple, are as well marked as they ever were in those cases which used to be attributed to the combined agency of mercury and syphilis. The opinion has been advanced by Deputy Inspector-General Gordon that the form of syphilis which prevails in China and Japan is the most virulent to be met with anywhere. The power of the virus in the present instance was very probably intensified by defective nutrition.

6.—Young man, aged 25, suffering for 3 years from chronic callous ulcers of the forearm and hand, which have induced complete immobility stimulating ankylosis of the wrist joint, and permanent flexion of the thumb and little finger. The flexor and ulnar aspects of the arm are of a bronzed or pink colour; a couple of connected ulcers with thickened white cicatricial edges and grey foul surface cover the thenar eminence; there is a small cup-shaped ulcer with pouting orifice on the middle of the flexor aspect of the forearm, and a congeries of 4 superficial cup-shaped ulcers making attempts at cicatrization on the ulnar aspect of the arm near the elbow joint. The ulcers and neighbouring tissue have all more or less of a boggy feel as if there was fluid beneath. Health otherwise good. There are symmetrical radiating scars of old ulceration on either ham, healed up respectively 1 and 2 years ago. Denies all history of venereal disease, but there is discolouration and a scar on the scrotum. The anti-syphilitic treatment was therefore put in force, with the result that the ulcers healed quickly, and flexibility and freedom of movement gradually returned in the wrist.

7.—*Fragilitas Ossium in a Syphilitic case.*—A man, aged 30, contracted syphilis 5 or 6 years ago with hardened inguinal glands, followed at an interval of 4 years by periostitic nodes, and immense ulcers on the nates. Four months ago the right clavicle, being at the time the seat of a node, was struck lightly in a quarrel, and snapped about its middle. There is now shortening to the extent of half an inch, the inner fragment overrides and union is entirely ligamentous and movable. He has good use of the arm however.

8.—Fungating testicle (of scrofulous origin?) Under treatment.

9.—Syphilitic ulcer involving the whole circumference of the right leg, and 4 to 5 inches broad. It has mostly cicatrised over under the usual treatment.

## II.—COCHIN CHINA ULCER.

1.—A man, aged 40, with hypertrophy of the integuments of the fore part of the foot, burrowing sinuses discharging highly offensive matter, and some degree of numbness. The three middle toes were chiefly involved. I laid open the sinuses but found some difficulty in restraining the bleeding, from the non-retractile nature of the diseased tissues; compresses and bandages however sufficed. Carbolic acid dressing and alterative treatment were employed.

2.—Burrowing sinuses of the sole of the foot with circular ulcers on the dorsum, surrounded by hypertrophied skin. One of the pouting orifices led down to bare bone. There is no loss of sensibility but a diseased condition of the skin resembling that in leprosy. It commenced 4 months ago from a slight punctured wound of the sole which was followed by an abscess. There is pain in walking, and more or less copious sanious discharge. The fistulous tracts were dressed with carbolic oil and the parts protected by means of a ring of soft leather.

3.—A patch consisting of three chronic, callous ulcers of the sole with raised edges and surrounding numbness in an anæmic youth of 19. Healing set in under dressings of a watery solution of carbolic acid dissolved in an equal quantity of acetic acid.

4.—Young man, aged 27, from the annually flooded low-lying district on the opposite shore of the river, complains of a chronic ulcer on the sole of the right foot which disables him from walking. It is situated in the middle line, immediately behind the ball of the great toe, of the size of a copper cash at the surface, but bevelled off in a ring of much thickened corium, the bottom being composed of reddish-grey granulations, yielding an ichorous discharge, intensely and overpoweringly offensive. The sole for a couple of inches round the ulcer is quite numb but not the heel or toes. There are various numb patches on the arms and legs, and the latter are covered with sheets of cohering epidermis. Temperature natural; pulse 84; eyes ferretty and inflamed; appetite good. He has complained of insensitiveness of the skin in patches, with papular and scaly eruptions for 4 years, and states that the sole of the foot was numb for some time before the ulcer appeared. The case is plainly one of anæsthetic leprosy, with the not unfrequent accompaniment of perforating plantar ulcer. He has also suffered from ague. Some improvement took place under the use of tonics and alteratives with the application of stronger nitrate of mercury ointment to the ulcer, but I despair of being able to effect a perfect cure, excepting through change of air. Dr. ROCHARD, physician to the French expedition to Cochin China, states that the ulcer attacked one out of every eight soldiers, that it and the neighbouring parts were always more or less anæsthetic, that it frequently penetrated to the bones and tendons, that it obstinately resisted all treatment and was scarcely to be cured except by removal from the malarious locality.

III.—The following cases of CEPHALALGIA WITH CONVULSIONS, consequent upon lesions entirely different from one another, are interesting when compared.

1.—*Cephalalgia and Convulsions in connexion with intra-cranial nodes.*—The captain of a lorch, aged 38, came to me in December last complaining of distracting pain in the head, with swelling, tenderness and puffiness of the left half of the scalp. He was highly anæmic from having eaten little, and exhausted by pain and ten days' sleeplessness. Three months before, he had a convulsion; two years before, he had contracted syphilis. Syphilitic intra-cranial node immediately suggested itself as the most probable explanation of the pain which was especially acute and intense by night, and he was treated accordingly. A few calomel and opium pills and a mixture of bromide and iodide of potassium, with iodine paint to the scalp, gave immediate relief.

2.—*Cephalalgia and Convulsions apparently dependent upon nervous exhaustion and anemia.*—Patient, aged 40, at my first visit had been confined to bed for a fortnight with pain in the head, bronchial irritation and weakness. The pulse was slow, skin cool, face pallid, pupils dilated, and great pain was complained of in the back of the head. Hot vinegar fomentations to the head, a cough mixture and some laxative medicine were prescribed with the effect of relieving the cough, but the pain in the occiput was not mitigated. On January 14th he took a convulsion which, with the subsequent stupor, lasted over a period of 2 hours. Ordered bromide of potassium internally and iodine paint to the nape of the neck. The fits did not return, but the occipital pain continued. On the 16th the pain assumed an intermittent character and shifted from the occiput to the forehead and eyeballs. Four grain doses of quinine in solution were now administered every 2 hours, together with nourishing food and a pint of stout daily, the result being an abiding cure within 24 hours.

3.—*Chronic pain in the occipital region with sickness and vomiting, convulsions (apparently connected with the anæmic state of the brain) and marked loss of intellectual power, the primary lesion being apparently irritation and congestion; some degree of effusion into the meninges at the base of the brain.*—F. A., aged 32, quarter-master, a temperate and generally speaking healthy man, complained on October 28th of pain in the head, bilious sickness and loss of appetite. For some time previously he had fallen into a drooping, languid state, and his manner was remarked by his messmates as being occasionally abstracted and peculiar. History of syphilis obscure or doubtful although he had suffered from venereal disease. Not subject to fits in infancy. Complained of having suffered from considerable numbness for a month past in his hands, and also more or less in his legs. He was also subject to spermatorrhœa, but continued at his post till the above date. He was treated with blue pill and black draught, hydrocyanic acid and quinine, but the pain in the back of the head grew worse and worse, there were daily attacks of sickness and vomiting, and



on the afternoon of November 4th he had a convulsive fit, consciousness not returning till the evening. At this time, on the supposition that the patient was suffering from softening of the brain, a very unfavourable prognosis was given. Excepting after the fit the pulse was generally but little excited, the bowels being naturally constipated and the tongue much furred. Patient has lost flesh considerably.

On Nov. 13th his mind was observed to wander; he was unable to answer questions correctly; was subject to hallucinations; seemed much depressed, and still complained of severe pain in the occiput. The skin was cold and the pulse weak and slow, numbering only 66 in the minute. Brandy, bark and ammonia administered.

Nov. 14th. Incoherence of thought and forgetfulness of the simplest matters more marked; pain in the occiput continues; passes urine in bed. Saw him to-day for the first time. Found him lying in his hammock in a helpless, semi-slumbrous state, capable of being roused to a very feeble degree of intelligence, but bursting into frequent fits of sobbing during the examination. There was a slight degree of ptosis of the left upper eyelid and he was quite unable to protrude the tongue. Pulse 72. Skin cold. Regarding the case as one of irritation and congestion of the meninges at the base of the brain, I recommended the head to be shaved and blistered, and iodide of potassium to be administered after a croton oil purge.

Nov. 16th. The medicines have acted well, and there is an improvement in all the symptoms.

Nov. 17th. Patient is more fretful. Pulse 78. No vomiting for two days and the pain in his head much better.

Nov. 18th. After the operation of a second dose of croton oil, which acted twice, he was seized with another epileptic fit which lasted half an hour. The connexion between the action of the purgative as a derivative from the brain, and the anæmic state of the blood vessels of the cerebrum as one of the acknowledged preliminary conditions of epilepsy needs only to be named.

Nov. 19th. Appetite and intelligence much improved. Pulse 96. Temperature 98°.

Nov. 20th. Intelligence and strength returning rapidly. Answers questions correctly. Eats well. Sat up in a chair to-day for an hour. Complains of numbness in both arms, and is slow in telling the particular part touched, but has perfect power over the movements of the arms. The numbness might be due to decubitus upon the arms while in the epileptic state, but its persistency warrants the diagnosis of pressure by effusion upon the sensory nervous strands in the cervical plexus.

Nov. 24th. Pulse dicrotous, alternately strong and weak. Heart's action much excited but free from murmur; palpitation not complained of, but pulse constantly about 120. Pain is elicited on pressure being made over the occipito-atloid joint. Ordered a second blister to the occiput, and ammonio-citrate of iron in combination with bromide of potassium twice daily.

Dec. 5th. The pain has now been gone for a whole week. Intellectual power has fully returned. He sleeps and eats well, and convalescence seems fairly established.

*Laryngeal Hiccough with Cardiac Dropsy.*—The patient was a countryman, aged 36, suffering from ascites and anasarca of 2 months' duration. The heart was pushed up by the fluid in the peritoneum so that the apex beat was in the interspace between the 4th and 5th ribs, where a mitral murmur was audible. Pulse 72. Temperature in axilla 96°. For several years he had suffered from a peculiar nondescript spasmodic affection of the tongue, throat and larynx—a kind of laryngeal hiccough, if I may use the expression. Every 2 or 3 minutes while under observation, and especially when people were noticing him, there was protrusion of the tongue, retraction of the larynx and insufflation of air with a most peculiar whine or whistle, as if the rima glottidis were in a state of spasmodic closure. When he once began hiccoughing he would go on for 10 minutes or a quarter of an hour, the affection being as annoying to witness as it was painful to endure. It was mostly under the control of the will, but recurred at intervals of a month and then lasted for a week. He spoke with a loud voice, was a tall, well-built man, and never gave up work until dropsy set in. The urine presented traces of albumen, was small in quantity, highly coloured and highly acid; specific gravity 1025. I put the man under treatment for the dropsy and gave him subsequently iron and digitalis, but I do not know the sequel of the case. I never met with one similar.

The manner in which these diseases of innervation are subject to the control of the will is well known, and forms one of the chief features in a rational treatment of them. I once succeeded in instantly curing a man of a three days' attack of ordinary hiccough by accusing him of theft and pretending to send for the yamen runners.

IV.—The following cases of *CHOLERA MORBUS* AND *CHOLERAIC DIARRHŒA*, seen in the height of summer, and owing their recovery mainly to the use of calomel, are of interest to the profession. As so much has been written on this subject, and to so little purpose, I prefer to give a simple record of the cases, without note or comment.

1.—A. B., aged 2 years, had been suffering from vomiting and diarrhœa with loss of appetite for a day; motions loose, dark coloured and offensive.  
July 16th. Stools watery, clear and intensely offensive, the odour being most peculiar. Strength gave way suddenly, and the eyeballs began to sink. Warm baths, turpentine and opodeldoc fomentations to the epigastrium, and calomel in  $1\frac{1}{2}$  grain doses with sugar every hour.

July 17th. Has taken 6 powders in all. Condensed milk was the only nourishment cared for: wine and water being rejected. During the night a change took place in the colour of the stools, which now seemed to contain bile along with undigested milk-curd. This, as well as the abatement of the vomiting, and a general calmative effect, I attributed to the calomel. Natural sleep set in in the evening. Next morning the child was able to run about, and in the course of the following day began to eat as heartily as usual. I doubt whether treatment by astringents and opiates might not have been fatal here.

2.—C. D., aged 25, after drinking freely of all sorts of liquors during the day, came home at night sick; began to vomit and purge next morning and to suffer acute pain in the stomach. He had had a large number of profuse, watery motions before I saw him at noon when he was suffering from intense abdominal pain and great prostration. Circulation much depressed; retching and vomiting at intervals with a sick feeling all the while. Brought up nothing but clear water and mucus. Surface cool or even cold but bathed in perspiration; headache considerable; thirst enormous; eyes congested and somewhat sunken. The symptoms were evidently choleraic. Hot fomentations were applied to the stomach, and a draught of mustard and hot water given, then a sedative draught with castor oil, followed by a sedative draught of acid, tincture of opium and æther, and finally chlorodyne (30 drops) without affording the slightest relief to the pain; indeed they were mostly rejected immediately. I now gave him 12 grains of calomel in doses of 3 grains each, allowing him only cold tea to drink to slake his intolerable thirst. At this time the tongue was coated with a dirty brown fur, and he was tossing about in bed in the greatest agony. Shortly after taking two of the powders the vomiting abated, and from 3.30 P.M. the pain also began to subside. The calomel appeared to have a direct and immediate influence in allaying the sickness and calming the stomach. He had one loose motion at 4 P.M. Though relieved of all the urgent symptoms he felt so nervous and unsteady as to crave for a sedative of some kind, and I gave him a tablespoonful of chalk mixture with morphia, camphor and peppermint which immediately composed him to sleep. A kind of dyspeptic feeling with gastric irritability and fulness and tension of the epigastrium continued for a day or two, but yielded within 48 hours to bismuth and tonics.

The two following cases I am able to give only in rough outline. Recovery was slower on account of the actual development of symptoms of collapse and the greater gravity of the disease. The doses of calomel were, I now think, unnecessarily large, but there was no salivation, and the dreaded secondary fever was reduced to a minimum.

3.—L. B., aged 30, a bad case of choleraic vomiting and purging with rice-water evacuations. Collapse, and cadaverous odour of the body; surface cold; eyes sunken; cramps and prostration marked. Gave him 10 grains of calomel every 3 hours, in all 2 drachms. The following day reaction set in feebly, and the stools were coloured with bile. Sickness still continued troublesome, hydrocyanic acid with sodawater giving some relief. There was some soreness of the mouth but no salivation. As the gastric catarrh passed off he was given strong beef tea, brandy and bark with ammonia. He made a tedious but good recovery within 3 weeks.

4.—C. M., aged 34, was seized with the usual symptoms of cholera,—cramps, coldness, collapse with uncontrollable vomiting and purging. Gave scruple doses of calomel for 6 hours at intervals of an hour between each two doses, and brandy and sodawater to drink. The vomiting speedily ceased so that liquid nourishment could be retained, and the case progressed satisfactorily. The patient complained of occasional sickness and nausea with subternal pain for a week after, which, coupled with a bright red, clean tongue deprived of epithelium, seemed to point to a catarrhal condition of the gastric mucous membrane. Bismuth and bland nutrients completed the cure. A curious attack of cramp in the muscles of the legs supervened a fortnight after recovery. There was no salivation.

#### MISCELLANEOUS CASES.

*Chronic Alcoholism.*—This case was remarkable for the repeated attacks of delirium tremens which occurred during its course, for two intercurrent attacks of vomiting and purging, simulating cholera, and for well marked accesses of angina pectoris without positive evidence of cardiac or arterial disease. The angina as well as the other distressing and alarming symptoms yielded immediately upon the sudden and complete withdrawal of alcohol in every form. The history of the case proves conclusively that "breast pang" may occur independently of organic lesion, and altogether as a disorder of innervation.

*Disease of the Aortic valves with obstructive and regurgitant murmurs and hypertrophy of the Heart; Palpitation, Dyspnoea, Angina, temporary improvement, followed by aggravation of the symptoms, and general Dropsy.*—G., aged 36, first consulted me in July about his heart. The case was one of advanced obstructive disease of the aortic valves with incompetency permitting regurgitation, together with compensatory enlargement of the heart. Both systolic and diastolic murmurs were harsh and loud, heard all over the heart and along the sternum; the area of cardiac dullness was much increased, and the impulse strong and heaving. The patient's breathlessness on exertion was very marked, so much so that he could not walk round his vessel or mount a stair without being quite "blown." I again examined him in the end of August. The murmurs were still harsh and pronounced and the palpitation excessive. In the mean time I had enjoined the greatest moderation in eating, drinking and smoking, absolute avoidance of spirits and wine, strict attention to the state of the bowels, gentle daily exercise consistent with health, but at all other times quietness and rest, a belladonna plaster to be worn over the pericardium and a tight broad bandage across the base of the chest.

September 1st. Health and general appearance much improved. The palpitation is no longer a trouble, he is less subject to dyspnoea on exertion, and there is now but one murmur, namely the systolic, audible at the base of the heart and along the sternum. Even this is much fainter than it was. I recommended him to persevere in the course of abstemious living, to take blue pill, digitalis and colocynth every second night, followed by a morning dose of cream of tartar (diuretics being useful even where there is not as yet a trace of dropsy) and a medicinal tonic stimulant instead of the brandy and soda which he was in the habit of taking to relieve urgent attacks of distressing flatulence.

November. His vessel being ordered to Shanghai in the end of September, he was subjected to unwonted mental and physical excitement which brought on repeated attacks of angina pectoris, together with progressive marasmus and general dropsy. He was for some time under treatment in Shanghai, but not improving he was sent home by Pacific Mail. From Japan I heard that the dropsy had subsided without alleviation of the intolerable cardiac suffering, or any other improvement.

*Case of Sudden Death by Rupture of the Heart (Right Auricle); Small saccular aneurisms of the ascending aorta: Hypertrophy and fatty degeneration of the Heart.*—S. C. E. aged 32, but looking 5 or 6 years older from a marked tendency to embonpoint, a remarkably healthy, vigorous man, addicted to good living and the free use of alcoholic beverages. He consulted me for the first time on October 4th, 1872, complaining that since the month of July he had suffered severe pain in his chest, which seizing him in either shoulder stretched down the left arm to his finger-tips, following the course of the breast-bone as they moderated. He complained also of some dyspnoea on making any special exertion, as when mounting a stair; of a slight tickling cough and of inability to sleep at night without having his head and chest raised.

Of late he had frequently wakened up from sleep with a sudden start and pain in the cardiac region. Twelve months before he was treated for rheumatism or rheumatic pains in the limbs to which he is subject.

Patient's chest on examination was found to be well developed, and the lungs everywhere resonant. No pulsation was detected in the jugular fossa, the radial pulses were not unequal, there was no interference with the venous circulation, nor was there any irregularity or contraction of either pupil, nor indication by the presence of laryngeal cough or alteration of the quality of the voice, of any irritative pressure on the vagus or recurrent laryngeal nerve. Neither was there the least trace of arcus senilis in the cornea, or of atheromatous degeneration of the peripheral arteries. Percussion dulness over the heart was not very markedly greater than natural, the full development of the lungs and their free healthy action masking the cardiac enlargement which really existed. The cardiac impulse was feeble, a symptom which LATHAM has taught us to regard as almost certainly indicative of degeneration of the muscular fibre of the heart. A double blowing murmur was audible at the base, all along the sternum and at the second right costal cartilage, and a single blowing murmur at the apex, audible also at the inferior angle of the scapula behind. From this, the only examination I made, I considered the case to be one of aortic valvular disease, both obstructive and regurgitant, with moderate hypertrophy of the heart, and I warned the patient accordingly. I prescribed blue pill and colocynth to be taken at night, with a teaspoonful of supertartrate of potash the following morning; to wear a belladonna plaster over the cardiac region, and to take teaspoonful doses of sulphuric æther and laudanum when the paroxysms of pain came on. I insisted on the greatest temperance in eating, drinking and exercise. After following this course of treatment for 8 or 10 days he felt himself so much better that he declared confidently to his friends that there must have been an error in diagnosis, and that it was impossible he could be a victim to disease of the heart. On October 10th he was treated for a sharp attack of ague of an anomalous character. On November 4th he had a very bad attack of "inward chills" with coldness and blueness of the face and hands, and great internal distress, which he attributed to gin into which he had put some orange rind with the internal skin unremoved. He thought this had acted upon him like a poison. After taking an emetic he came round again. The truth is that this was his first pronounced attack of angina pectoris, and the desire for gin was prompted by an indistinct feeling of something wrong within the chest.

November 16th. Complains of a violent cough with expectoration, and constant pain in the right side of the chest near the sternum. Ordered him an irritating liniment and an antimonial sedative cough mixture.

November 20th. Cough much relieved, but has nightly attacks of pain in the chest and right shoulder with dyspnoea, which oblige him to get up and walk about the floor in agony, and which he finds the æther and laudanum less effective to relieve than large doses of ardent spirits. In these attacks he sometimes felt as if he must die, but being a man of great natural energy and pluck he never laid up for a single day, and continued to the last in the discharge of his duties.

On November 23rd, at 5.30 P.M., he went home to dinner, took a seat and called the attention of his messmate to some slight bruises on the back of his left hand which he had received shortly before in punishing a Chinaman for neglect of duty. As he uttered the words he gasped twice, fell forward and instantly expired. At 6 P.M. I found life quite extinct, the pupils widely dilated, and the surface deadly pale; death having taken place with all the symptoms of internal hæmorrhage.

*Postmortem made the following morning, along with Dr. WARING of H. B. M.'s gun-boat "Leven."*—Rigor mortis complete. Not a trace of dropsy or anasarca. Subcutaneous fat 1 to 2 inches thick in front of the abdominal muscles. Omentum, mesentery and appendices epiploicæ loaded with fat. Lungs well developed, crepitant and healthy throughout, with the exception of recent congestion in both backs; the base of the right lung at the back and root being also the seat of pulmonary hæmorrhage, evidently of recent origin.

The sac of the pericardium was distended with a pint or more of dark purple blood in a soft coagulum. A rent an inch long, with by no means irregular edges, was detected in the posterior aspect of the right auricle while yet the heart remained *in situ*. The heart itself was very considerably enlarged, weighing 17 ounces, which was probably 6 or 7 ounces in excess of what it should have been for a man of his weight;

the average weight of the heart of an athletic male, according to the estimates of CLENDINNING, REID and NIEMEYER being  $9\frac{1}{2}$  or 10 ounces. It is remarkable that the enlargement was entirely confined to the left side of the heart, and specially to the left ventricle, of which the walls measured  $\frac{5}{8}$  and  $\frac{3}{4}$  in., while the tip extended fully 2 inches beyond that of the right ventricle. Microscopic examination revealed perfect integrity of the muscular fibre excepting in the substance of the muscoli papillares. In the left auricle few perfect muscular fibres could be seen, the majority being destitute of the transverse striæ, and filled with sarcode in the granular state; the walls otherwise abounded with oil globules and elastic fibres. The right ventricle was far gone in fatty degeneration; one-third of the thickness of its posterior wall, and at the apex nearly its whole thickness, being converted into yellow fat. Even where the fibre was soundest the microscope discovered loss of striæ and deposition of fat cells. Stellate crystals of stearin appeared within these adipose cells after standing for some hours in the cold, the temperature of the room being  $50^{\circ}$  F. The walls of the right auricle were loose and flabby, and specially thin at the site of the rupture, as thin as a piece of chamois skin, and of a bright yellow colour from conversion of the muscular fibre into adipose tissue\*. A small fragment taken from the very edge of the rupture formed a perfect demonstration of adipose tissue intermixed with a few elastic fibres. By pressure on the glass slide the delicate envelope of these fat-sacs, from  $\frac{1}{16}$  to  $\frac{1}{8}$  of an inch in diameter, was ruptured, and a number of brightly refractive oil globules set free.

The mitral and tricuspid valves seemed tolerably competent, and the pulmonic artery and valves were sound.

The aortic valves were not themselves diseased, but the ascending aorta was dilated throughout its whole extent into three irregular pouches measuring  $1\frac{1}{2}$  inch in the transverse diameter, while the diameter of the transverse portion of the arch was  $\frac{3}{4}$  inch, i.e. normal. The calibre of the artery being thus enlarged to twice its normal dimensions, the valves were necessarily incompetent to close the aortic orifice, which accordingly permitted easy regurgitation. The serous membrane lining the interior of the aorta was raised or embossed in numberless places, and the middle coat thickened by a yellow deposit of caseous or atheromatous matter. Within each of the aneurismal dilatations, where the sacculi abutted on the narrower and healthier portion of the tube, and where, as against the buttresses of a bridge, the stream of blood necessarily impinged with greatest force, the lining membrane had given way, and the middle coat was in a state of granular softening and ulceration. The external fibrous coat was here immensely supported and strengthened by the fibrous sheath of the pericardium. It was beautiful to notice how the healing hand of nature had already cast a fibrinous film over the incipient ulcerative spots, the shreds of coagulated fibrin being composed of blood-stained bundles of parallel fibres without nuclei.

The bronchial glands at the root of the lung contained much black pigment, and several contained calcareous concretions, which however appeared to have been long quiescent. The cretaceous matter dissolved without effervescence in muriatic acid, and was precipitated like lime or magnesia by means of alkaline solutions. I doubt that these concretions were examples of retrograde tubercle, seeing that the history and physique of the patient pointed him out as belonging preeminently to the arthritic rather than to the scrofulous diathesis. My own experience goes entirely to support the inference of ROKITSKY and WALSH, against STOKES, as to the rare association of tubercle and aneurism.

The liver was enlarged to double its normal bulk, the increase being chiefly in the right lobe which was enormously thick, while the capsule was stretched smooth and transparent, and the edges of the organ were rounded, blunt and bulging. The minute structure could be sufficiently well studied through the thin

\* My impression is that it is quite incorrect to speak of the conversion of muscular fibre into adipose tissue according to the language of the schools. I rather think that from imperfect use or some other cause the fibres atrophy, the sarcode is absorbed and the sarcolemma remains in the form of fibrous tissue at least for a time, and that the vacant spaces thus created are occupied in obese subjects by fatty deposit, or rather by a growth of fat secreting cells. Dr. RICHARD QUAIN, in his recently delivered lectures on diseases of the walls of the heart (*Lancet* for March and April 1872), I am aware, differs toto cœlo from this view, and regards fatty degeneration as a purely chemical or physical change in the composition of the muscular tissue itself independent of those processes which we call vital. But the adipocere of our preparation jars is not adipose tissue. The truth appears to be that fatty hearts present in the first stage hypertrophy of the muscular fibre; in the second, retrogressive fatty degeneration of the same; and in the third, new growth of fat-sacs or adipose tissue.

transparent capsule, and presented all the characteristics of the fatty nutmeg liver. On section it presented a bright buff colour, greasing the knife and the fingers, the blood from this and other organs being oily, coagulating defectively, and drying up quickly on the hands into a dark brown powder which could be easily rubbed off clean. Each individual lobule presented a central dark spot—the ultimate venules of the hepatic vein, a pale circumferential ring of secreting cells, and an enclosing network of equally congested vessels—the radical twigs of the portal vein. Under the microscope the hepatic cells were found gorged with oil globules. I believe the organ would have yielded not less than 50 per cent of fat, which I had almost succeeded in recovering from it when an unlucky accident put an end to the experiment. Though thus loaded with fat and in an extreme state of fatty degeneration, the liver seems to have performed its chief function of secreting bile sufficiently well, there being neither jaundice nor constipation, while digestion and assimilation of food were unimpeded. The gall bladder was shrunken and empty.

The excessive store of fat laid up in this man's system shows how well he might have dispensed with hydro-carbonaceous food of every description, and especially with alcohol which being more readily oxidised than animal fats, protects these from being carried into the blood to undergo combustion.

The right kidney was normal in size, weighing  $4\frac{1}{2}$  ounces; the left (he had frequently complained of dull pain in the left lumbar region, a fact which I ascertained after his death) was unusually large, weighing  $9\frac{1}{2}$  ounces. Both were of a deep purple colour and much congested, presenting under the microscope an abundance of fat cells and oil globules, but not otherwise diseased. The medullary and papillary portions were distinct, the capsule thin but perfectly smooth and transparent, and the Malpighian tufts and uriniferous tubules intact. The enormous size of the left kidney could therefore be attributed to nothing but infiltration with fatty matter, and the lumbar pain would seem to have been due to mere mechanical distension of the capsule. Blood scraped from the surface of the kidney showed the same tendency to non-coagulation and segregation of the blood corpuscles, and was intermixed with innumerable oil globules.

The urine unfortunately was not examined, but the patient had no symptom excepting the above, of which he never informed me, to call attention to the urinary apparatus. It is almost absolutely certain that the urine was non-albuminous, and he never suffered from the least trace of dropsy.

The spleen was somewhat enlarged and friable.

*Microscopic examination of the Aneurism.*—The mouths or collars of the sacculi described on the last page were roughened and narrowed by tubercles or eminences varying in size from a lentil to a split pea, and several of them were in the ulcerative stage, the superficial fatty paste being composed of finely granular matter with minute oil globules, while the deeper layers still retained considerable consistency and the characteristic appearances of ordinary fibrous stroma. The cul de sac, though containing patches of atheroma, was by no means uniformly or generally atheromatous, appearing to consist mainly of the expanded and thinned internal and middle coats supported by the muscular parietes of the auricles and the pulmonary artery. The serous membrane lining both ventricles and auricles was quite free from atheroma, except in two places where the tissue constituting the mitral valve is continuous with that which forms the semilunar aortic valves. The tissue involved was the serous lining alone, and the deposit was similar to that occupying the tunica media of the aorta, namely a dense, yellow, somewhat elastic substance, composed of meshes of nucleated spindle-shaped fibre cells, intermixed with fine threads of elastic tissue, oil globules and granular debris. The characteristic form of the morbid growth (for growth it was, supplementary in its function, and derived from the cells of connective tissue which enter into the normal structure of the middle coat) was therefore that of a closely wrought texture of nucleated, fusiform cells.

The atheromatous degeneration of the coats of the aorta presented three stages, from which it appears that the disease is essentially a chronic interstitial inflammation of the internal and middle coats, an endoarteritis with proliferation of cells, proceeding at length to ulceration.

1st.—Semi-cartilaginous thickening and elevation—mere corrugation—of the inner tunic, its translucency unimpaired, but tinged with a ruddy hue. The spots were numerous, and being presumably due to irritation from blood charged with noxious principles, as for instance alcohol in excess, may be regarded as protective, and compared to the increased development of cuticle on parts exposed to undue friction.

2nd.—A similar condition of the inner tunic, with thinner or thicker layers of yellow deposit immediately subjacent occupying the innermost layers of the middle coat, and contrasting by its yellow colour with the opaline aspect of the sound texture. The mass constituted a genuine fibrous stroma, and if its function, as from its nature and situation one might suppose, were auxiliary of the artery where already weakened or exposed to the undue impulse of irritating blood, it might be compared to the callosities and developments of subcutaneous tissue where intermittent pressure is applied. Unfortunately it is by its pressure destructive of the healthy life and action of the elastic structures of the middle coat.

3rd.—The pustular or ulcerative stage as above described; the tunica intima giving way, the elastic fibres of the middle coat being broken up and softened by pressure, and the morbid fibro-plastic growth itself breaking down into oil globules and granular debris. The aneurismal portions of the artery were however composed of all the coats much thinned by pressure outwards beyond the narrow neck or ring of atheromatous pustules.

In cases of rupture of the heart the tearing process is often known to extend over a period of some hours. In this case it is impossible to avoid the conclusion that the rupture commenced at the time of the violent excitement of the heart's action on the afternoon of the fatal day. If so, the patient lived for four hours after the accident, and, which is yet more strange, without any unusual degree of suffering. If the rupture did really take place at 2 P.M. we cannot imagine it to have involved more than the lining membrane. With a heart so far gone in fatty degeneration as this was, it would be impossible to hope that life could be prolonged very many months, supposing every precaution taken and the most perfect quiet observed. WATSON says with great truth that when aneurismal pouches form at the very entrance of the aorta, they often defy detection, giving no sign of their existence upon which a physician can rely, or which can even lead him to suspect such a state of matters until all at once the sufferer drops down dead. SIMSON says that aneurisms of the ascending portion of the arch rarely give much discomfort, so that many (26 out of 58) drop dead suddenly, being at the time apparently in perfect health. It was only during the last six weeks that this patient complained of anything at all wrong within his chest, yet small as were the saccular dilatations of the aorta, I believe them to have preceded and caused the hypertrophy of the left side of the heart: first, by the obstruction they presented to the flow of blood and the non-contractility of the walls of the aorta; and secondly, by the regurgitation which followed imperfect closure of the semi-lunar valves, leading to dilatation as well as hypertrophy. According to Dr. SIMSON, out of 703 cases of aortic aneurism the seat of the affection in 420 was in the ascending aorta, that being the part against which the principal force of the stream of blood impinges after leaving the heart.

Why atheroma should sometimes proceed to ulceration and at other times to calcification probably depends entirely upon the age of the patient. In the prime of life when the circulation is active and the heart vigorous or hypertrophic, ulceration is apt to occur and death by hæmorrhage, while in the old the heart's vigour is impaired and the circulation languid, and there is a tendency to the deposition of lime salts and the calcification of arteries.

It seems to be an admitted fact that organic affections of the heart and arteries are found with yearly increasing frequency in Great Britain. The statistics compiled by Dr. FARR conclusively show that during the last 20 years the total of deaths of males of all ages from heart disease has more than doubled, and that this increase is wholly confined to males above the age of 20. There is no rise in the percentage of deaths from cardiac disease among females or young people. The objection made by a writer in the *Medico-Chirurgical Review* for July 1872 that these statistics are too loose and unsatisfactory to be relied on cannot be entertained. "Death from disease of the heart" is no longer a *façon de parler*, on the contrary there has been of late years a growing certainty in the diagnosis of cardiac diseases. Why then, it may well be asked, the striking exemption of women and young people of both sexes from the recently observed increase of mortality by heart affections, and how does it come about that heart disease and aneurism are now among the most appallingly frequent diseases of early manhood? They are much less frequent in Germany and France than they are in England, least common of all, according to Dr. GORDON, amongst Hindoos, Caffres, Mussulmans, and rice-eating peoples generally. He might have added the Chinese also, for, to judge by

my own experience, out of some 15,000 or 16,000 cases seen at hospitals for the natives here and at Hankow, I have met with but 50 cases of pronounced organic disease of the heart and arteries.

Among the numerous causes assigned, with more or less truth, Dr. ALLBUTT of Leeds has recently clearly shown the injurious effects of over-work and strain on the heart and great bloodvessels in the case of forgermen, bargees, &c., while Mr. MYERS has unequivocally traced the development of heart disease and aneurism amongst soldiers to the practice of drilling with accoutrements, through which the cardiac and pulmonary organs are compressed and embarrassed, and the pressure of the blood enormously increased within the vessels. Dr. Reginald THOMPSON, in the St. George's Hospital Reports, gives 7 cases of "distrain" of the heart with dilatation from sudden and excessive muscular exertion, of which 4 were fatal.

Corroborative evidence of the intimate connexion which exists between syphilitic disease and aneurism, as advanced by Drs. AITKIN and GORDON, has lately been supplied by the statistics of the government prisons of England in the report by Drs. NICHOLSON and RENDLE. The latter remarks that the unfortunate circumstances of the class from which female prisoners especially come readily suggest syphilis as the probable cause of the aneurisms which occur not unfrequently amongst them.

Dr. QUAIN, in his Lunnleian lectures, amongst other causes attributes great importance to the overstrained excitement of our times as explaining the increased frequency with which organic affections of the heart and arteries occur. He quotes CORVISART as to the increase of heart affections during the French Revolution. I would not for a moment question the possibility of organic disease of the heart arising through intense over-excitement of the nervous system, since valvular disease at least is credibly asserted to arise in this way, but amid the quiet languor and monotony of the various ports of China, where death by heart disease and aneurism in the prime of early manhood is so alarmingly frequent, such an explanation will not suffice. Much may be attributed to the influence of ill regulated gymnastic exercise, much to plastic changes in the coats of the arteries by means of the syphilitic virus; very little, in China at least, to the influence of an overstrained nervous system; but most of all, I am inclined to believe, to a cause which is dismissed by Dr. QUAIN in a single line, namely "living well" and taking little exercise. It is a very significant fact that the diseases referred to should be by far the most frequently met amongst nations notorious for their "good living", and least frequently amongst those notorious for their bland and insipid vegetable diet. It is doubtful whether the ancient Romans in their most luxurious days maintained anything like such a degree of extravagance in living as seems to be the recognised and indispensable fashion in the foreign hongs in China. Still more certain is it that the amount of alcohol consumed is vastly in excess of any reasonable need of the economy. The sole result, except of very limited amounts, as recently shown by Dr. PARKES of Netley, is that the work of the heart is increased by as much as one-fifth, "so that it can hardly be doubted that such frequent stimulation of the heart's action by alcohol "is solely injurious." From the admirable investigations of Professor HAUGHTON it appears that every ounce weight of the human heart is equal to the lifting of 20 lbs. through a foot per minute, an amount of force equal to that put forth by the voluntary muscles during the full strain of the contest in a rowing match. Think of adding one-fifth to the contractile force of the heart by the equivalent of every glass of brandy. In the cases experimented on "the brandy did not affect the excretions, it increased the heart's action and "that was all. The men found that the brandy did not help them in their work, but that it hindered them "materially. The first dose did neither good nor harm; but the second induced thirst and heat, palpitation "and shortwindedness, so that they were not equal to their work." The opinion of NIEMEYER may also be quoted:—"Persons," he says, "who, by immoderate eating and drinking, bring upon themselves transitory "plethora, furnish no inconsiderable contingent to the general mass of cardiac hypertrophy."



F.—Dr. J. R. SOMERVILLE's Report on the Health of Foochow (Pagoda Anchorage)  
for the half year ended 30th September, 1872.

I.—*Meteorology.*

I HAVE, by the want of instruments, been compelled, though very reluctantly, to give up all attempts at the preparation of a meteorological table. At the Customs establishment here there are three common thermometers differing about 3° F., a fair aneroid, and an excellent mercurial barometer. There are no maximum and minimum or dry and wet bulb thermometers, no rain gauge, wind vane or anemometer. In the absence of these instruments it is obviously impossible to get anything like reliable data. Yet in the present state of scientific enquiry, to say that atmospheric conditions exert a powerful influence over the causation and modification of disease is to express a truism, and it is equally certain that without correct and complete instruments, and careful and systematic observation, a meteorological basis for medical topography cannot be obtained. I therefore take this opportunity to suggest that all the Customs establishments from which reports are returned be supplied with such instruments. The set furnished to the British army, as described in PARKES's *Practical Hygiene*, seems all that could be desired, and Sir Henry JAMES's *Instructions in Meteorology* might be had with each set. DANIELL's or REGNAULT's hygrometer might be substituted for the dry and wet bulb thermometers, for greater facility in reading off the dew point, the dry bulb being represented by a common standard thermometer. It strikes one constantly how little we know of the history of disease in China. With the exception of Dr. GORDON's "China from a Medical point of view," the army and navy medical returns, the pamphlet of the late Dr. James HENDERSON of Shanghai, (which I think applies more to India than to China) and communications to medical and other journals by a few painstaking members of the profession in China, there has been, so far at least as my reading goes, absolutely nothing written about the climates and diseases of this country.\* We have now, by means of these Reports, an opportunity of offering in a collected form, observations on these points, and, if we can get a correct register of the meteorology and a systematic registration of disease they will be, without doubt, most valuable in after years in compiling the medical history of China. Without such a foundation all must necessarily be vague and speculative. Meanwhile we can only record cases as they occur in the ordinary routine of practice, with an occasional remark on any broad climatic condition that may obtrude itself too obviously to be passed over. Regarding the climate I may mention that a mummy hand obtained in Egypt decomposed during its first rainy season in China. It had previously stood without change an unusually wet season of ten months in Scotland, and of course had endured for many centuries in the dry climate of Egypt. At the beginning of the rainy season in China the hard glossy look disappeared, the dried tendons absorbed moisture from the saturated atmosphere, and became swollen and sodden. The tissues between the metacarpal bones got softened and pulpy, feeling like wet kid; finally, unmistakable signs of decomposition set in, and the hand had to be thrown out as a nuisance. It is evident that these changes were produced only by heat and moisture in combined action, because the specimen had already stood out against either separately, namely heat in Egypt, and moisture in Scotland, and it is well known that mummies in our museums at home are easily preserved with ordinary care. I am informed by Chinese scholars that there is no mention of preservation by embalming in the Chinese books; probably because it was early discovered that this method was impracticable owing to the heat and humidity of a portion of the year. It is interesting to observe these effects of atmospheric conditions on dead tissues, without instruments; it would be more useful to study them on living structures with their aid.

\* I have not seen FRIEDEL's work.

## II.—Diseases.

Nosological Return for the six months ended 30th September, 1872.

DISEASES.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	TOTAL.	DIED.	REMARKS.
I.—GENERAL DISEASES.									
Section A:—									
Ague, . . . . .	2	5	2	4	12	1	26	—	Only two cases local; rest imported.
Remittent Fever, . . . . .	—	—	—	1	—	1	2	—	
Mixed Fever, . . . . .	—	—	—	—	1	—	1	1	
Measles, . . . . .	—	—	1	—	—	—	1	—	
Febricula, . . . . .	—	—	—	1	—	3	4	—	
II.—GENERAL DISEASES.									
Section B:—									
Rheumatism, . . . . .	1	2	8	8	3	3	25	—	All chronic except one. All imported. Do. Do.
Syphilis,—Primary, . . . . .	—	2	1	1	5	—	9	—	
Secondary, . . . . .	1	1	—	—	4	1	7	—	
Phthisis Pulmonalis, . . . . .	—	1	1	2	3	—	7	—	
Tumours, . . . . .	—	1	—	—	1	—	2	—	
III.—DISEASES OF THE NERVOUS SYSTEM AND ORGANS OF THE SPECIAL SENSES.									
Heat Apoplexy, . . . . .	—	1	—	—	—	—	1	—	Traumatic.
Sun Malaise, . . . . .	—	—	—	7	6	—	13	—	
Tetanus, . . . . .	1	—	—	—	—	—	1	—	
Sciatica, . . . . .	—	1	—	—	—	—	1	—	
Neuralgia, . . . . .	—	—	2	—	1	—	3	—	
Ophthalmia, . . . . .	—	—	4	—	3	1	8	—	
Diseases of Ear—Otitis, . . . . .	—	—	—	—	5	2	7	—	
IV.—DISEASES OF THE CIRCULATORY SYSTEM.									
Diseases of the Heart:—									
Valvular, . . . . .	—	—	1	—	—	—	1	—	
Hypertrophy, . . . . .	—	—	—	—	1	—	1	—	
V. & VI.—DISEASES OF THE ABSORBENT SYSTEM.									
Symphathetic Bubo, . . . . .	—	—	—	1	—	—	1	—	
Hydrocele, . . . . .	—	—	—	1	—	—	1	—	
VII.—DISEASES OF THE RESPIRATORY SYSTEM.									
Catarrh, . . . . .	2	—	5	—	3	2	12	—	
Bronchitis, . . . . .	3	—	—	—	1	6	10	—	
Pleurodynia, . . . . .	—	—	—	—	1	—	1	—	
VIII.—DISEASES OF THE DIGESTIVE SYSTEM.									
Boils, . . . . .	—	—	3	1	5	8	17	—	
Dyspepsia, . . . . .	3	18	6	10	12	9	58	—	
Dysentery, . . . . .	—	—	4	5	3	6	18	—	
Diarrhoea, . . . . .	—	14	25	32	28	22	121	—	
Intestinal Obstruction, . . . . .	—	—	—	—	—	2	2	—	
Hæmorrhoids, . . . . .	1	—	1	1	2	1	6	—	
Hernia, . . . . .	—	—	1	2	—	1	4	—	
Lumbrici, . . . . .	—	1	1	3	—	—	5	—	
Hepatitis, . . . . .	—	—	1	—	—	—	1	—	
Congestion of the Liver, . . . . .	—	1	—	—	1	—	2	—	
Torpor of the Liver, . . . . .	—	—	2	—	1	—	3	—	
Nephritis, . . . . .	—	—	1	—	—	—	1	—	

DISEASES.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	TOTAL.	DIED.	REMARKS.
IX. & X.—DISEASES OF THE URINARY AND GENERATIVE SYSTEMS.									
Gonorrhoea, . . . . .	1	9	14	—	14	13	51	—	
Bubo, . . . . .	—	1	1	—	—	—	2	—	
Menorrhagia, . . . . .	—	—	2	—	1	1	4	—	
Stricture, . . . . .	—	2	1	2	—	—	5	—	
Orchitis, . . . . .	2	—	—	—	5	1	8	—	
Condylomata, . . . . .	—	—	—	1	2	1	4	—	
XII. & XIII.—DISEASES OF THE CELLULAR TISSUE AND CUTANEOUS SYSTEM.									
Phlegmon and Abscess, . . . . .	1	1	1	5	3	2	13	—	
Ulcer, . . . . .	—	—	—	—	2	—	2	—	
Psoriasis, . . . . .	1	—	—	—	—	—	1	—	
Lichen, . . . . .	—	—	—	—	—	—	—	—	
Herpes, . . . . .	—	—	—	—	—	—	—	—	Numerous Cases.
UNCLASSED.									
Debility, . . . . .	—	—	—	2	2	1	5	2	Male twins. Died on 13th and 14th day respectively. All the five cases were infant marasmus.
Effects of Opium Smoking, . . . . .	—	—	—	—	1	1	2	—	
Delirium Tremens, . . . . .	—	—	—	—	1	—	1	—	
WOUNDS AND INJURIES.									
Wounds, . . . . .	3	2	3	1	—	1	10	—	Two were gun-shot wounds requiring operation. Did well under carbolic acid. The fatal case arose from the explosion of a kerosine lamp. Patient lived till the morning of the 21st day after the accident.
Sprains, . . . . .	—	1	—	1	1	—	3	—	
Burns and Scalds, . . . . .	—	—	—	2	—	—	2	1	
TOTAL, . . . . .	22	63	87	99	135	90	496	4	

*Analysis of the Nosological Table.*

(a.) *Fevers.*—Of the 26 cases of intermittent fever 24 were imported. One of the two local cases was attended with an urticarious rash that I do not remember having before seen in a case of ague, and recurred every other day. It however yielded readily, as did all the others, to large doses of quinine. This test of a fever by quinine is valuable as a means of diagnosis, especially in the hot season when ordinary heat eruptions may serve to mask the real character of the disease. It is well known that quinine is useless in fevers of the continued type, but it is stated by Dr. W. H. STONE in the *British and Foreign Medico-Chirurgical Review* for July 1869, p. 233, that in the West Indies many cases of typhoid are marked at the outset by distinct periodicity. In this stage quinine proves most valuable, but directly the continued form of the fever is declared, the drug loses its power and even seems to aggravate the febrile symptoms.

The cases noted as "Sun Malaise" might, perhaps, have been placed under "Febricula," but I have kept them apart in order to remark how similar many of these cases are to an ordinary attack of ague. The cold stage is represented by a chill, described by the patient as "something cold creeping up his back," and the rest of the case is almost identical with the second and third stages of ague. Further observations on this point are much to be desired, since up to the present day our views as to the nature, and even the existence of malaria, are so undecided.

The case of measles was a very mild one imported from Shanghai. The patient was isolated, and thorough disinfection by means of carbolic acid kept up. The disease was not communicated to any of the other patients in hospital, and I have heard nothing of it since. There has been no case of dengue at this port.

*Mixed Fevers.*—What follows will, I trust, free me from any suspicion of affectation in making use of this expression. Although it may be said to be proved that a fever occurring in any part of the world can

be reduced in the main to one or other of the recognised types, yet it is equally certain that fevers are often very complex in tropical and sub-tropical regions. One form passes into another, so that it is impossible for some time to ascertain the character of any assigned instance. This is proved by the recent Navy Medical Returns, and as far back as 1862 the fact was recognised by Mr. LAWSON in the West Indies (*Medico-Chirurgical Review*, July 1869, p. 225). Mr. LAWSON says, "Fevers in tropical climates are by no means so simple or well defined in their forms, on all occasions, as many suppose; on the contrary they are often very complicated. I have known cases commence as remittent and continue as such from the 6th to the 10th day, having an intermission on the mornings of these days, yet the same afternoon the fever recurred which soon took on the character of yellow fever, and proved fatal on the 4th or 5th day of that form, with black vomit and other unmistakable signs of the disease. I have seen in other cases, which commenced as intermittent, diarrhoea ensue; after three or more tertian periods the fever became continued, assumed the character of typhoid fever, and ultimately presented the affection of the kidneys and urine seen in yellow fever, and then terminated in death. On examining the bodies, the intermixture of the morbid appearances peculiar to yellow and typhoid fevers was detected in variable proportions as already detailed."

I had an opportunity, in consultation with my friend Dr. POUJADE of the Arsenal, of seeing the case in the table before the fatal result, and it is to his kindness that I am indebted for the notes that follow. The patient was a gentleman aged 33, resident eight years in China. During this period he had not had any serious illness, although complaining occasionally, and especially during the hot season, of intermittent fever with a little gastric disturbance and constipation. He had always the appearance of good health, and was most abstemious in his habits and regular in his mode of life. Until his last illness, the attacks of intermittent fever had always yielded to moderate doses of quinine, and the dyspeptic symptoms to ordinary treatment. I cannot do better than give the rest of this instructive case in Dr. POUJADE's own words:—

Monsieur \* \* \* était dans cet état lorsqu'il se décida à aller chercher du repos et la fin de son indisposition au monastère de Koo-shan, situé aux deux tiers de la hauteur d'un des pics qui bordent la rivière Min, lequel pic a, dit-on, 450 mètres d'élévation. Il y choisit comme habitation un petit local humide et situé près du bord d'une mare à l'abri de grands arbres qui interceptent complètement les rayons du soleil.

Il y vécut quinze jours et s'y portait très bien, tellement bien qu'il nous annonça le 9 Août qu'il nous revenait complètement guéri et annonçait son retour pour le lendemain. Le lendemain il était de retour et j'étais appelé, une heure après son arrivée, à lui donner mes soins.

Je le trouvai couché et se disant très fatigué; il avait été pris la veille au soir d'un accès de fièvre un peu plus fort que ceux pour lesquels je l'avais soigné précédemment. Il avait eu froid, puis s'était enveloppé, et depuis deux heures seulement (il était onze heures du matin) il était en moiteur: il ne souffrait pas et attribuait la prolongation de son accès à la fatigue du petit voyage qu'il venait d'effectuer pour rentrer chez lui. La figure était pâle, le pouls, fort et à rythme régulier, battait 100 pulsations. Bien que le stade de froid fut bien passé, le malade accusait de légers frissons de courte durée, et en l'observant, je m'assurai que les membres supérieurs étaient, de temps en temps, le siège de contractions qui n'allaient pas jusqu'aux soubresauts de tendons qu'on observe dans les fièvres graves, mais qui ne laissent pas que de me mettre en garde contre une aggravation de la maladie.

Le foie et la rate avaient leur volume normal. Je prescrivis la décoction de quinquina jaune comme boisson, et j'administrai 1 gr. 50 de sulfate de quinine en trois prises de 2 heures en 2 heures. Le soir, le malade se trouvait mieux, le pouls était descendu à 80 environ, la peau, sans être sèche, n'était plus le siège d'une sueur aussi abondante; les pupilles, que j'avais trouvées un peu dilatées dans la journée, étaient revenues à l'état normal. Je prescrivis pour la nuit une potion avec acétate d'ammoniaque 12 gr., teinture de menthe et de cannelle 20 gouttes de chaque.

Le lendemain, le malade avait un peu dormi, et se sentant mieux, s'était levé; j'essayai, mais en vain, de le faire recoucher; je prescrivis encore 3 prises de sulfate de quinine de 0 gr. 40 chaque, la décoction de quinquina et quelques cuillerées de limonade pour étancher la soif vive dont il se plaignait.

A 4 heures du soir je le trouvai causant avec trois de ses amis, qui étaient venus le voir, et il m'assura se trouver mieux; il était sans fièvre mais plus pâle et plus défaté que la veille et accusait des bourdonnements d'oreilles que j'attribuai à l'effet du sulfate de quinine qu'il était censé avoir ingéré. Le lendemain matin (12 Août) je fus éveillé par un des amis de Monsieur \* \* \* qui (d'après son récit) venait de le trouver levé et complètement fou.

Je me rendis à son domicile et je le trouvai en effet en proie à un accès de fièvre pernicieuse commençante; il avait le délire, et comme il pouvait difficilement remuer la langue il faisait à première vue l'effet d'un idiot; je le couchai

et commençai à lui administrer la quinine à haute dose, et je prescrivis des frictions stimulantes, le long de la colonne vertébrale et des dérivatifs aux extrémités.

On nous dit alors qu'il n'avait pas pris les médicaments prescrits la veille et qu'il avait passé la nuit à divaguer. La quinine fut administrée en solution, (4 gr. dans une potion) à prendre de  $\frac{1}{2}$  heure en  $\frac{1}{2}$  heure, et j'appliquai des compresses quininées sur l'épigastre. La potion étant rejetée, j'administrai d'heure en heure des  $\frac{1}{2}$  de lavement contenant chacun près d'un gramme de sulfate de quinine, mais ils furent presque tous rejetés à mesure de leur introduction; le sphincter anal étant complètement relâché, le malade faisait sous lui.

Alors commença (11h. du soir) une agonie que connaissent tous les médecins qui, ayant pratiqué dans les pays chauds, ont vu des accès de fièvre pernicieuse.

Le coma était complet, la respiration se traduisant en hoquets trahissait seule la vie prête à s'éteindre. Pendant ce temps, je faisais pratiquer des frictions, appliquer des boules d'eau chaude, je plaçais des vésicatoires à la nuque, etc. Le malade mourut à quatre heures du matin.

L'autopsie n'a pas été pratiquée. Mais je crois que si nous avions pu la faire, nous aurions trouvé, outre les altérations de l'encéphale et des centres nerveux, la rate profondément altérée, (en bouillie) et le foie pigmenté; et pourtant ces deux organes n'ont donné pendant la vie aucun signe d'altération.

S'il m'était demandé de me prononcer sur le diagnostic de la maladie qui a emporté Monsieur \* \* \* je le formulerais comme Fièvre intermittente pseudo-continue terminée par deux accès subintrants à forme comateuse. En effet depuis le 10 au matin jusqu'au moment de la mort la fièvre n'a pas quitté le malade, et pourtant elle se composait d'accès puisqu'il y a eu 3 rémissions incomplètes dont 2 surtout bien marquées.

In this opinion I entirely concur, and I think this is a striking example of an ordinarily innocent fever suddenly assuming a malignant and fatal type. With reference also to Dr. POUJADE's remarks upon the probable condition of the abdominal organs, it must be known to every practitioner in China, who has the opportunity of testing his diagnosis by postmortem examination, that cases are by no means uncommon where the liver and spleen are found extensively diseased after death, without having indicated during life symptoms other than those of functional disorder.

A case of intermittent fever, ending in a manner much similar, occurred in my own practice in October last year. I had not an opportunity of seeing the case until the patient was *in extremis*, but I have got the following brief notes from the surgeon in attendance, and from the books of the hospital.

G. M., aged 24, mate of a British vessel, admitted to the Foochow Seamen's Hospital 11th October 1871. The disease seemed an ordinary quotidian intermittent, the paroxysms occurring each day at about the same hour. There was also diarrhoea, and the case was treated with quinine and astringents; partial delirium on the 13th, but there appeared to be nothing in the symptoms to cause alarm. At 5 p.m. on the 14th I was called to see the patient for the first time, and found him delirious, with intense abdominal pain, anxious expression and all the symptoms of general collapse. The delirium rapidly merged into profound coma, and the patient died at 8 o'clock next morning. Decomposition set in 8 hours before death, in the form of two dusky ecchymosed circles on the abdomen and left side, at first the size of an orange and, just before death, as large as a child's head. I saw so little of this case that I should not like to speak positively as to its nature, but I think it fair to suppose that it was a *mixed fever*, either intermittent passing into typhoid and ending fatally by extensive peritonitis and probably perforation, or an ordinary intermittent assuming the pernicious type so well described by WOOD under the synonyms "*pernicious fever*," "*congestive fever*," "*pernicious intermittent*" and "*pernicious remittent*."

*Mixed fevers* are fortunately rare at this port, and one can say little as to the treatment. I think that the smallest amount of delirium occurring at any stage in the course of a periodic fever should be looked upon as a symptom of the greatest gravity, and, on its appearance in another case I should be inclined to give up the specific treatment by quinine, and trust to stimulants in full doses.

(b.) *Tetanus*.—In the September Report of last year I detailed a case of recovery from idiopathic tetanus. I have now an opportunity of offering one of the traumatic form, with a like satisfactory ending. The interest of these cases to the profession, especially in China where the elements of climate and race come in as modifying circumstances, will be my apology for dwelling a little on this disease.

J. A., aged 40, native of Manila, admitted to the Foochow Seamen's Hospital 26th April 1872, for wound of forefinger of right hand received at the wreck of his vessel on the coast of Formosa, a fortnight previously. The second and third phalanges were gangrenous, and on going to the hospital to remove the finger, I found symptoms of tetanus in the stiffness of the muscles of the neck and jaws. On this day there was rigidity of the masseters, platismæ and sterno-mastoids, and on the 3rd day of the disease trismus was complete. In the evening, dorsal spasm set in, and on the 4th day there were violent spasms of the muscles of the head, neck, chest and back, opisthotonos, well marked risus sardonicus, and considerable dysphagia. At first the patient could slightly protrude his tongue which was red at the tip and edges and covered with a dry brown fur towards the centre; but afterwards this became impossible. The paroxysms increased in severity except when the patient was under the influence of hydrate of chloral until about the 14th day of the disease. Emprosthotonos was unusually well marked, so much so that on two occasions during the momentary absence of the attendant, the lateral spasms were so violent as to jerk the patient out of bed, once towards the right, the other time towards the left side. After the 14th day the paroxysms became less severe, but the trismus did not quite yield until about the 36th day. The spasms were generally most violent from 6 to 9 o'clock in the evening, with a remission in the morning. Delirium was often very violent, requiring gentle restraint; appetite nil, but the attendant managed to force down from time to time considerable quantities of freshly prepared essence of beef and chicken with stimulants. There was very little laryngeal spasm, so distressing in my previous case. The muscles of the lower limbs were also little affected, but those of the abdomen very much so, the spasms occasioning the most excruciating agony. The pulse varied very much; when the patient was at his worst it was thready and hardly perceptible. The bowels were constipated throughout, requiring relief by castor oil, and when that could no longer be given, by enemata. On the important subject of temperature in tetanus, I may say generally that there was a higher evening rate, thus agreeing with the cases reported by OGLE, (*Medical Times and Gazette*, January 20th, 1872,) but differing from them inasmuch as the temperature was not quite independent of muscular spasm, but kept pace with the severity of the symptoms; that is to say, there was a pretty regular daily variation, a rise occurring in the evening, but when muscular spasm was most violent and the general symptoms most severe the temperature was usually higher. On the first two days of the disease the temperature in the axilla was 100° F.; but it rose on the 5th day to 105° F., and remained at that for 48 hours. After this it went gradually down (with the exceptions I have mentioned) to 100° F. and remained there till close upon the relaxation of the trismus, when it fell to normal.

As to the treatment, contrary to the usual plan, I refrained from operative interference when tetanic symptoms appeared. This I did because I had noticed that in most of OGLE's and other fatal cases something had been done, either by removal of the part or section of the main nerve, and that the results of this practice had been in general far from satisfactory. It would be rash to conclude from one case that the non-interference had anything to do with the recovery, and I merely mention the fact. Indeed, it is likely enough that nervous connexion had been already severed by the gangrene before the patient's admission to hospital. The wound was dressed with extract of belladonna, washed twice daily with carbolic acid lotion, and the separation of the dead part allowed to go on. The physiological action of belladonna was not evidenced by any dryness of the fauces or dilatation of the pupils; this agent may therefore be eliminated in judging the result. The case was treated from first to last by the hydrate of chloral; and no other drug, except an occasional aperient, was given. The dose was 30 grains every 3 hours, and this quantity had seldom to be exceeded. The patient took altogether 4 ounces of chloral. The amount of stimulant required was much less than in my former case, usually 3 ounces of brandy in 24 hours.

I shall doubtless be pardoned for collecting a few cases of traumatic tetanus of late date, especially those that have occurred since the introduction of the hydrate of chloral. It is difficult to get at the mortality in traumatic tetanus, the fatal cases as a rule not being reported. CURLING's treatise contains 46 traumatic cases occurring to surgeons in tropical countries. Of this number 10, or rather more than 1 in 5, recovered, and, as the disease is supposed to be more severe in hot than in cold climates, the average of recoveries in the latter would perhaps be over this. Dr. FAYRER reports in his "*Clinical Surgery in India*"

(*Medico-Chirurgical Review*, January 1868,) 3 traumatic cases, all of which recovered. The treatment was various, and included opium smoking. It is to be presumed that the patients were natives accustomed to smoke opium, for it is hardly possible to conceive that they could have been taught, between the paroxysms of tetanus, the art of drawing the vapour into the lungs, without which the drug has very little action. Dr. SHRIMP, in a late *Lancet*, states that the Chinese smoke crude opium in tetanus. Has any one in China heard of this? Dr. FAYRER has also 3 more recent cases, 2 of which recovered (*Half-yearly Abstract of the Medical Sciences*, vol. 55, page 199). Although the hydrate of chloral was used, Dr. FAYRER attributes recovery to operation rather than to it, as he has not found the drug successful except for euthanasia in such cases. Dr. BAKERWELL reports from Trinidad (*Lancet*, February 2nd, 1869), a successful case, supposed to be traumatic, in a negress. Nothing was given save two doses of 30 grains each of the bromide of potassium, and tetanic symptoms lasted for 24 hours only. This was evidently a very mild form of the disease, and it is fair to suppose would have recovered without any drug. Is tetanus milder in the coloured races? In the *Lancet*, November 4th, 1871, there are 2 cases reported from St. Thomas's Hospital under the care of Mr. CROFT. They were treated with hydrate of chloral to the exclusion of all other drugs, and both recovered. In the *Half-yearly Abstract*, vol. 55, page 203, there is a record of 3 cases which were put under chloral and hot baths only, and all recovered. The second case of this series is not in point, for the sufferer was not admitted till 35 days after the first appearance of tetanic symptoms, and it is known that when the patient survives the 9th day he generally recovers. The other 2 cases point most markedly to cause and effect. In the *Lancet*, September 7th, 1872, a case is reported treated with morphia, calabar bean and subcutaneous injection of atropia. The patient recovered, but the variety of drugs used makes the case valueless for our purpose. Finally, in the *Lancet*, October 19th, 1872, are 3 cases, 2 of which recovered. The fatal case was treated by the subcutaneous injection of morphia and atropia combined. One of the successful cases was treated with hydrate of chloral, nicotine, which was given at first, having to be abandoned as hurtful rather than useful. In the other case morphia subcutaneously was alone used.

From this résumé, imperfect though it be, I think it may fairly be concluded that the mortality in traumatic cases is considerably reduced since the introduction of the hydrate of chloral. In this disease success is claimed for the most opposite modes of treatment, and the drugs used are often so complex that it is impossible to tell to which, if to any of them, recovery is due. I can only say that in the two cases of tetanus in which I have used this drug (in the first case it had to be given up on account of debility, after acting well for many days), I have had every reason to be satisfied with its action in relaxing spasm, relieving pain, and giving sound and refreshing sleep. These effects were most constant, and when the drug was omitted or the intervals between the doses too long, the symptoms returned. Moreover, we have now the results of Dr. RICHARDSON's interesting and laborious researches on the action of the hydrate of chloral (*Medico-Chirurgical Review*, April 1872). They show that the drug is eliminated from the system at a fixed rate, namely about 7 grains per hour; the dose may therefore be proportioned with the greatest nicety to the state of the symptoms, and all risk of a poisonous quantity circulating in the blood can be avoided.

(c.) *Intestinal Obstruction*.—In one case the obstruction lasted for 10 days. Purgatives by the mouth proved worse than useless and were soon discontinued. Chloral was hurtful, as had been the case in this patient before. Morphia did well. There was always intense abdominal pain, and for 48 hours the symptoms were most alarming, intense agony with delirium; pulse 120, small and wiry; countenance anxious and disturbed with pain; temperature not much over normal, usually 99° F. in the evening. I distended the colon by means of enormous enemata of warm soap suds with castor oil and turpentine, passed through an œsophageal tube introduced into the gut 9, 10 and finally 12 inches. I attribute the unusual facility with which I passed the tube through the sigmoid flexure to having just previously injected two ounces of olive oil. After each enema, the colon in its three portions was found completely distended, and the abdomen tense. I then proceeded cautiously, but with considerable force, to knead the whole abdomen, beginning at the right side and ending in the left iliac fossa. With a very large quantity of fluid thrown into the intestines I do not think that any danger of laceration need be apprehended, even when the kneading is conducted pretty

forcibly. There was in this case no sign of peritonitis, but even had it been present to a moderate extent I should not have hesitated to employ the kneading before the end. We have to resort to quick and desperate remedies as a last resource and to accept the risks. The enemata and kneading were repeated three times, and the relief was decided and increasing. Natural defecation was performed on the morning of the 11th day, and has gone on normally since.

(d.) *Dysentery*.—18 cases. These yielded readily enough to ipecacuanha, except one. In this singular case it could not be borne in any form or dose, and I record this as remarkable because it was not a chronic imported case but was seen and treated by me from the beginning. This man's powers of digestion were so feeble that pills of Dover's powder coated with Cox's non-metallic film used to pass through the intestines unchanged. Every mode of treatment, including even the mercurial, to which I am much opposed, was tried in vain, and finally I sent the patient home to England in charge of a surgeon. From the character of the dejections and the general symptoms there was evidently extensive ulceration of the large intestine, though this was not within reach of the anal speculum. Injections of tannin, glycerine and carbolic acid, passed up through a long tube, served to keep the disease in check, but had no curative power.

(e.) *Diarrhoea*.—121 cases. These were mostly of the mild summer variety and yielded readily enough to ordinary treatment.

(f.) *Enthetic Diseases*.—Syphilis, 16 cases; gonorrhoea, 51. Of these 67 cases 3 only were local, the rest imported. Nothing could show more clearly than this the value of the Consular order forbidding leave on shore to seamen belonging to British vessels at this port, to which I referred in my last Report.

(g.) *Delirium Tremens*.—I have again to record the value of the hydrate of chloral in this disease. In one case the patient had not slept for 96 hours previously, and was much excited by delusions. After the first dose of 30 grains he slept for two hours, after the second, given in four hours more, he slept for six hours and awoke composed and free from delusion. Patient was discharged well on the third day after admission into hospital.

(h.) *Infant Marasmus—Infant Mortality—Alimentation of Infants in China*.—I have good reason to know from experience the vast importance of this subject, and if I speak rather decidedly upon it, I trust this will be accepted as my excuse.

For the five years, 1863 to 1867 inclusive,\* the Registrar-General of Great Britain recorded for England and Wales, 578,394 deaths of infants under one year, and the statistics also show that "at least half of the total number came to their end before the expiration of 3 months from their birth." The writer adds, "we may even venture a step farther, and say that, counting back from the end of the first year to the earliest weeks of existence, there will be observed a progressive increase in the number of infants whose deaths go to swell our mortality tables." Comparing these deaths with the number of living births, we find that of the children born in England and Wales during this period, 15.5 per cent died in the course of their first year. In the Society of Friends in England, where the circumstances are perhaps as favourable as in any class of the community, the death rate within the first year of life during these five years was 11.1 per cent. Again, the statistics brought forward by Dr. CURGENVEN, in his "Waste of Infant Life," (*Medico-Chirurgical Review*, April 1868), show that in 1864, "of children under 5 years of age of the well-to-do class, the deaths were 11 per cent; whilst the agricultural standard was 20 per cent; of the children fed by hand from 50 to 70 per cent; and of those under charge of ignorant or negligent nurses, as high as from 60 to 70 per cent." In Normandy, we learn from the report of Dr. DUMONT of Caen, "that while the mortality of infants who have had the breast is 10 per cent; that of those fed by hand or bottle has reached 50 per cent." To come down as nearly as possible to the present time, we find from Dr. Ross's report on the sanitary condition of St. Giles's district during the year 1871, 21 per cent died before completing their first year; for the whole of London the corresponding percentage was 17; in Bristol, 16.5; Nottingham, 18.7; and in Portsmouth, 14.4; while in Liverpool it was 26.9; and in Leicester 24.1. (*Lancet*, September 7th, 1872).

\* *British and Foreign Medico-Chirurgical Review*, April 1870, page 347.



The state of matters is even worse in France; indeed the latter country is quoted as an example of a stationary population.

Dr. Hugh MACPHERSON, (*Lancet*, October 21st, 1871,) states that "the average annual mortality among the children of our European soldiers in India, during the 4 years ending in 1854, was 68.83 per 1,000, and the Sanitary Commission informs us that in the 6 years 1864-69, the death rate has averaged annually 94.41 per 1,000 in Bengal. These figures tend to prove therefore, that the rate of mortality among these children has been increasing instead of diminishing; indeed in 1869 it reached such enormous proportions that 145.2 out of every 1,000 European soldiers' children are stated to have fallen victims to disease in Bengal."

Continental writers on disease in the tropics are unanimous in dwelling upon the deplorably high mortality among children, and they are further agreed that while neglect, bad sanitary conditions, illegitimacy and some other minor causes may account for a portion of it, improper food is the cause *par excellence*.

The writer in the *Medico-Chirurgical Review* referred to above computes that at least one-half of the infant mortality in England is due to preventible causes. Setting aside the cases in which the statistics shew that death resulted from want of breast milk, the many thousand cases of diarrhoea, thrush and convulsions would probably also be found to be "with few exceptions, associated with either the entire withdrawal of the breast, or with the substitution, in part, of improper food, such as the infant's organs are neither fitted for nor capable of digesting and assimilating, with neglect or with drugging." Looking at France, Dr. LORAIN (*"Nouveau Dictionnaire,"* vol. 1, page 733) admits that it is only in the agricultural districts that artificial feeding has met with any success, and he proscribes it in towns altogether. Again (*Journal de Médecine et de Chirurgie*, November 1866) the writer shows that of the infants put out to nurse in the different provinces from the age of one day to one year, the mortality varies from 90.50 per cent to 58.56. It is added that in Normandy the proportion is from 73 to 87 per cent; "grâce à l'alimentation dite au petit pot, absurde et funeste routine qui fait décroître d'une façon effrayante la population rurale de la vieille Normandie \* \* \* La mortalité des enfans est non seulement aujourd'hui une question d'humanité, mais encore une véritable question d'état." All other authorities agree as to the frightful waste of infant life caused by artificial feeding, and perhaps I have gone into unnecessary detail in order to establish the conclusion that breast milk is the only proper food for an infant.

I believe it is at present impossible to get at even an approximate estimate of the mortality of infants in China. At this port, at least, there is no systematic registration of death and I would take this opportunity to impress upon those in authority how desirable such a registration is, and to urge them to do what they can towards this end.

In considering infant mortality in China (I speak always of the children of foreigners only) we must eliminate several causes that are active at home in increasing the death-rate, such as poverty, neglect, illegitimacy and over-crowding. Parents in China are usually in circumstances sufficiently easy to afford the necessities and a few of the luxuries of life, and the houses are mostly roomy and well ventilated. On the other hand we must add the influence of a high temperature during the hot season, a fertile cause of infantile disease, chiefly of the abdominal viscera. Even at home we notice how an unusually hot season swells the Registrar-General's Returns by the deaths of infants from diarrhoea, typhoid, &c., and this influence is more intense in China where the heat is much greater and of longer continuance.

Since then the mortality from artificial feeding is so high at home, and we have in this country a high temperature as an additional risk, there is all the more reason that every mother in China should avoid all attempts at bringing up her children by hand. During the past half year alone, I have seen 5 instances of the deplorable effects of rearing infants on the bottle, and especially in the use of farinaceous foods and preserved milks. I will here detail the symptoms of infant marasmus as I have met with them in China. The infant becomes pale and thin. The emaciation is most marked in the lower limbs. The fatty tissue is gradually absorbed, and, when the disease is advanced, the skin hangs in folds on the inside of the thighs and about the hips. The corners of the mouth are drawn up, and, from the arrest of growth, the forehead and upper part of the face appear out of proportion to the lower, giving the infant a peculiarly painful appearance

of old age, that once seen can never afterwards be mistaken. The bowels are usually confined at the beginning, but afterwards become very irregular, and diarrhoea with offensive dejections sets in. The infant is restless and fretful from griping pains and flatulent distention of the intestines, especially at night. It often screams or whines for hours together, jerking itself about, the knees drawn up on the abdomen, and the thumbs turned in on the palms of the hands. These attacks of colic are caused by flatulent distension from the accumulation of food (chiefly farinaceous) in the intestinal canal that the infant organs are incapable of digesting, and they result often in collapse and convulsions. Vomiting sets in, at first only occasionally but afterwards so frequently that nothing can be retained. These symptoms progress; the infant becomes feeble, listless, and incapable even of crying, and by this time the emaciation has so advanced that the little sufferer is literally reduced to skin and bone.

Now, judging from the marvellous way in which, unless the infant has got so feeble as to be past recall, these cases improve under small quantities gradually and carefully increased, of milk from a healthy nurse, it is fair to conclude that this state would not have been arrived at had this system of feeding been adopted from the beginning, and we are the more convinced of this when we notice how satisfactory is the progress of an infant, even in the hot season, who is from the first fed on good breast milk. It is unfortunately the case that it is very rare to find in China a foreign mother who is capable of adequately providing for her child during the whole period of lactation. The debilitating effects of the hot season have, I dare say, much to do with this, but at all events I think there is no doubt as to the fact. I must say that I have never found in China the disinclination to nurse so often noticed by writers on this subject at home, especially by practitioners among the upper classes; on the contrary, I have always found a strong desire on the part of the mother to suckle her own child, and, in several instances, when it was evident to me that this praiseworthy effort tended only to undermine the mother's health while the nutrition of the infant was going on very badly, I have had the greatest difficulty in getting the substitution of a wet nurse. If, as I have reason to believe, this repugnance to have one's child nursed by a native of the country arises in great measure from a common impression that physical, mental and moral qualities are transmitted by the milk, it is sufficient to say that nothing is better known to the profession in modern times than that such is not the case. These qualities are communicated by hereditary transmission, and are modified by circumstances having no connexion with the present subject. Compare DARWIN'S "Origin of Species," and "Animals and Plants under Domestication" with OGLE'S "Hereditary Transmission of Structural Peculiarities," (*Medico-Chirurgical Review*, April 1872) and GALTON'S "Hereditary Genius." This objection may therefore be considered as removed, and only the question of a wet nurse *versus* artificial feeding remains to be considered. From what has been already said, I need scarcely add that I urgently recommend the first, and emphatically denounce the latter. In this province we are well situated for obtaining a class of healthy nurses from the agricultural districts in the immediate neighbourhood (I think the same remark will apply to most of the Chinese ports), and with a careful examination by the medical attendant there is nothing further to be desired. It is necessary that I should here enter a caution against one system of nursing that is dangerous because it is delusive. I mean that of giving the infant the little milk the mother may have and trying to make up for the rest by artificial feeding. This method has all the evils to the infant of bottle feeding, with the additional disadvantage that when any ailment appears in the progress of nutrition it is liable to be ascribed to other causes than the true one, viz. improper aliment.

(i.) *Burns and Scalds*.—To make this Report as complete as possible, I give here my investigations into the petroleum oils, although these have already appeared in the Shanghai papers:—

On the 26th of August last, a shocking accident, resulting in the death of one of the ladies of the community occurred in this neighbourhood from the explosion of a kerosine oil lamp, and other explosions have taken place recently, though fortunately unattended with damage except to property.

I regret that I have been unable to obtain more than 15 samples of these oils, 4 of them being by the same manufacturer; and I may mention that I should be glad to receive as many more as possible, and thus be enabled to extend the series of experiments. A small quantity only is required, one ounce being quite sufficient; and the sender should state manufacturer, if known, and where procured.

The experiments have been in each instance repeated for verification, in some instances many times, and the results may be relied on as accurate to two degrees Fahr.

The oils, kerosene, paraffin, and others sold under fancy names, are all products of crude petroleum, whether this latter be obtained artificially from the fractional distillation of bituminous shale, as in the celebrated paraffin oil of Mr. Youne, from the Boghead coal of Linlithgowshire, or whether occurring in the native state, as in Persia, Japan, Burmah, Siberia, Italy, France, North America, and in China in the provinces of Szechuen, Shansi, and Yunnan. They are all carbo-hydrates, contain no oxygen, and combustion is effected by the union of oxygen derived from the air. In certain conditions too, their vapours form, with oxygen, an explosive mixture on the approach of flame. Their safety or danger consists in the absence or presence of the lighter naphthas. If these latter have not been thoroughly removed by the successive distillations through which the crude petroleum ought to pass in the process of refining, the resulting product ignites at a low temperature, and the oil is a dangerous one. The test of safety or danger is therefore the point of ignition of the vapour by flame.

The writer on the Petroleum Oils in "Chambers's Encyclopædia," (London, 1864) observes: "Terrible accidents have now and then happened with some of the more inflammable American oils, by reason of their vapours exploding in the reservoirs of lamps. Most of these, no doubt, have taken place with oils whose vapours form an explosive mixture with air at a temperature below 100° F.; but they can hardly be considered safe if their vapours will take fire on the approach of a light at less than 120° F. The vapour of the burning oil from Boghead coal will not form an explosive mixture below 140° F., and is therefore quite safe. Even the most dangerous of the American oils can easily be rendered safe by removing the lighter naphthas which they contain."

On this I would remark that I consider 120° F. as much too low for safety in China, especially during the hot season. Personally, I should not think of using for household purposes an oil that ignites at less than 15 degrees F. over this, and doubtless the nearer we get to 140° F. the better.

All the oils examined, even No. 6, stood the immersion of a red-hot poker without igniting; this popular domestic test of safety is therefore no test at all.

The temperature of the air during the periods of examination was from 27.5° to 28.5° Centigrade=82° to 84° F., and the temperature of the oils was in each instance about 2° F. under that of the air.

No. 1.—DEVON'S Oil, from Hongkong, vendor unknown, used on board ship, flashes at 40° Cent.=104° F., ignites permanently at 60° C.=140° F. A safe oil.

No. 2.—DEVON'S Oil, from Dobie & Co., Pagoda Anchorage, flashes at 40° C.=104° F., ignites permanently at 58° C.=137° F. A safe oil.

No. 3.—PRATT'S Oil, from a private individual, obtained in Shanghai, vendor unknown, flashes at 30° C.=86° F., ignites permanently at 43.5° C.=110° F. A very dangerous oil.

No. 4.—An Oil from BURRELL & Co., London, manufacturer unknown, used on board ship, flashes at 40° C.=104° F., ignites permanently at 58° C.=137° F. A safe oil.

No. 5.—An Oil from BROWN & Co., New York, manufacturer not known, flashes at 40° C.=104° F., ignites permanently at 67° C.=153° F. This is the best in the collection, and I am sorry I have not been able to obtain the name of the manufacturer. It was given me by Capt. BERRY of the American ship *Benefactor*, and was supplied to him by the ship-chandlers mentioned, and used on board ship.

No. 6.—An Oil from Hongkong, manufacturer unknown, ignites at temperature of the air, and on immersing the basin containing the oil in a mixture of pounded ice and salt, and thus reducing the temperature to as near the freezing point as possible, the oil still ignites. An excessively dangerous oil, quite unfit for illuminating purposes. This product is evidently one of the lighter naphthas obtained in the distillation of the crude petroleum. It is right to say that the party purchasing this oil was warned that it was unfit for burning in lamps, and only to be used for the purposes of turpentine in paint, &c., and that it was put into the lamps by mistake of the native servants. This oil has caused three explosions at the Anchorage.

No. 7.—An oil from TALBOT and ALDER, London, manufacturer unknown, used on board ship, flashes at 40° C.=104° F., ignites permanently at 54° C.=129° F. Can hardly be considered a safe oil, especially for use on board ship. I think these oils should not be used on board ships at all, nor in houseboats.

No. 8.—An oil from BROADBEAR, ANTHONY & Co., Hongkong, manufacturer unknown, used on board ship, flashes at 37° C.=99° F., ignites permanently at 62° C.=144° F. A very safe oil.

No. 9.—An oil from TRAILL & SONS, London, manufacturer unknown, used on board ship, flashes at 40° C.=104° F., ignites permanently at 60° C.=140° F. A safe oil.

No. 10.—An oil from HOK-LEE & Co., Foochow, name on tin cannot be deciphered, flashes at 36° C.=97° F., ignites permanently at 56° C.=133° F. A fairly safe oil.

No. 11.—An oil from THOMPSON & Co., Pagoda Anchorage, Bell brand, flashes at 36° C.=97° F., ignites permanently at 44° C.=112° F. A very dangerous oil. This is the oil that caused the fatal accident.

No. 12.—An oil from New York, manufacturer unknown, given me by Capt. HARDY, ship *Horatio*, used on board ship, flashes at 50° C.=122° F., ignites permanently at 62° C.=144° F. A very safe oil, takes equally with No. 8 the second rank in the collection.

No. 13.—DEVON'S oil, from LANE, CRAWFORD & Co., Hongkong, flashes at 34° C.=94° F., ignites permanently at 56° C.=133° F. A fairly safe oil.

No. 14.—An oil labelled BOWSWICK & TELFORD, from LANE, CRAWFORD & Co., Hongkong, flashes at 34° C.=94° F., ignites permanently at 56° C.=133° F. A fairly safe oil.

No. 15.—DEVON'S oil, from Shanghai, vendor unknown, flashes at 35° C.=95° F., ignites permanently at 58° C.=137° F. A safe oil.

These oils have been furnished me indiscriminately, no attempt at selection has been made; and as far as my observation has at present gone, I think they represent fairly the petroleum oils in common use in China. It is very much to be desired that the series were extended, and I hope to be able to do this at some future time. Samples alone are wanting.

From these results it will be observed that of the 15 samples examined, 12 are safe (that is including the doubtful No. 7 as safe) and 3 are dangerous, and, if we take the four specimens of Devor's oil as one, we have 9 safe and 3 dangerous, thus giving one-third as the proportion of dangerous oils.

This is a state of matters sufficiently alarming to suggest, at least, further enquiry, but another most important point remains to be noticed. A safe oil becomes dangerous when used in an improperly constructed lamp, and of the lamps sold in China for the combustion of these oils, many are eminently defective. It may be said, generally, that low-class, cheap lamps are usually imperfect in construction, and dangerous, especially when they have been some time in use. For a safe lamp, the wick case should not be less than three inches in length from top to bottom; the wick ought to fit accurately the burner, and the rack pin should have a *double* claw to take hold of the wick. By these means, the flame is sure to be extinguished from the want of oxygen, when the wick is turned down within the burner, and the length of the burner from top to bottom gives additional security against the flame penetrating into the reservoir under any circumstances.

By an unfortunate coincidence, the bad oil No. 11 was put into a bad lamp; the flame, on being turned down, was not extinguished, and doubtless remained burning within the wick case, near the surface of the oil in the reservoir, until it had raised the temperature sufficiently high to ignite the mixture of vapour and air in the reservoir; hence the explosion with its deplorable results.

Again, it will be noticed that the oil No. 3 ignites 2 degrees F. below No. 11. On examining the lamps in which this oil had been used, I found them to be of the best construction, and it is to this cause that I attribute immunity from accident in this case. I gave of course the caution against using this bad oil in even the best lamps.

It has happened to myself to have a lamp upset and the reservoir smashed; the oil did not ignite, and no damage, save the destruction of the lamp, resulted. In this case both oil and lamp were good, but such mishaps are far from reassuring. A mild explosion took place in a private house at the Arsenal the other day, but I have not been able to get a sample of the oil used, the gentleman having wisely poured the remainder into his garden, to prevent further accidents.

To show the enormous increase in the use of these oils of late years, I quote from the United States Dispensary for 1868, and from the *New York Times* of February 16th, 1865. Speaking of American Oils, the writer states:—

“Establishments for purifying the petroleum have multiplied with great rapidity, and the quantity of oil collected, and either exported or consumed at home, would be incredible, considering the short time since the trade in it may be said to have begun, were it not attested by positive returns. The quantity of petroleum exported, either crude or refined, independently of that consumed in this country, from the ports of Boston, New York, Philadelphia and Baltimore, amounted in 1862, to 10,887,701 gallons; in 1863, to 28,250,721; and in 1864, to 31,772,972.”

I have no later statistics, but doubtless there has been a large increase on even these enormous figures.

I have thus endeavoured to give a short and simple account of the petroleum oils, with the cautions to be observed in their use; but I shall waive for the present the important question, whether it would not be more prudent to sacrifice brilliancy to safety, and to return to the oils of former days.

I must leave till next Report the Foochow and anchorage death-rate for the last 10 years, and also some social questions of hygiene in China that I had intended to have touched upon.

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*G.—Dr. F. Wong's Report on the Health of Canton for the half year ended  
30th September, 1872.*

DURING the summer the general health of the adult members of the foreign community was, as usual, very good. Some cases of fever and diarrhoea, two cases of dysentery, and a few others of unimportant character, such as catarrh, bilious congestion, &c., constitute nearly the whole amount of sickness observed among them. With Shamien and other healthy localities along the river side as places of residence, houses well adapted for warm climates, temperance in diet, and care in avoiding exposure to the sun, foreign residents may, and generally do, enjoy very good health throughout the whole year. Among the children, however, besides the usual cases of diarrhoea, coughs, febrile disturbance, and other disorders incidental to the period of dentition, a few cases of great severity occurred, and terminated in death.

We have had on the whole a hot summer. The heat in July and August was particularly oppressive. The thermometer often stood at 94° in the shade. Except in the early part of the season, there was very little rain, the whole amount being much less than in former years. The cold weather set in very early, in the first part of September, and it remained cool for nearly the whole month.

The unprecedented number of 8 deaths occurred during the last 6 months, 4 being of adults, and 4 of children. Of the 4 adults, 2 were non-residents, and 1 died from accident. The causes of death are as follow :—

1.—Died from the effects of intemperance. The patient had long been addicted to drink; his system was at last thoroughly broken down, so that his stomach and bowels were for months unable to perform their functions, or to retain what passed into them.

2.—The Rev. W. E. MCCLESNEY, an American Missionary, was killed on the night of the 9th July by a gun shot wound in the head. In the prosecution of his work, he was at a village not far from Canton, and while sitting in his boat a band of robbers passed by, and a stray shot fired by one of them struck him in the temple and caused instantaneous death.

3.—Three days after the above-mentioned accident, Mrs. MCCLESNEY gave birth to a child, who died in 2 days.

4.—A child of about 1 year old died, I am told, of pharyngitis.

5.—Died of drink. The patient was a discharged seaman, and his death was caused by the direct effects of alcohol.

6.—Died of sun-stroke. This patient was also a drunkard. He was not seen till he was moribund.

7.—A child about 10 months old, died of inflammation of the stomach the sequelæ of measles.

8.—Died from strumous suppuration and diarrhoea. The patient, 11 months old, was attacked first by diarrhoea and high fever, accompanied by a red rash which extended over both legs and slightly over the lower part of the abdomen. A large abscess then formed on one shoulder, and irritation of the brain supervened. The child lay rolling her head about, moaning, and continually putting up her hands to her eyes. This went on for a week, when one incisor tooth made its appearance, and the distressing symptoms subsided for 2 days. Then the submaxillary glands began to swell, so as to interfere with deglutition. They suppurated, and the abscess burst into the throat. The inflammatory process extended until at length the internal carotid was opened, when death by hæmorrhage terminated the child's sufferings, 37 days after she was first taken ill. It would appear that dentition awakened a latent strumous dyscrasia as there was no reason to suppose that the rash, which was very partial and transient, was an irregular form of scarlatina.

I subjoin a list of the diseases that came under treatment during the last 6 months :—

Small-pox, . . . . .	1 case.	Congestion of Liver, . . . . .	2 cases.
Febricula, . . . . .	4 "	Functional derangement of Liver, . . . . .	5 "
Intermittent Fever, . . . . .	42 "	Hæmorrhoids, . . . . .	1 "
Remittent Fever, . . . . .	2 "	Fissure of Anus, . . . . .	1 "
Catarrh, . . . . .	5 "	Round Worms, . . . . .	4 "
Rheumatism, . . . . .	5 "	Subacute Cystitis, . . . . .	3 "
Chronic Alcoholism, . . . . .	1 "	Prostatitis, . . . . .	1 "
Sun-stroke, . . . . .	2 "	Orchitis, . . . . .	5 "
Neuralgia, . . . . .	6 "	Paralysis of Bladder, . . . . .	2 "
Incipient Paraplegia, . . . . .	1 "	Menorrhagia, . . . . .	1 "
Cerebral Exhanstion, . . . . .	2 "	Conjunctivitis, . . . . .	7 "
Hysteria, . . . . .	1 "	Asthenopia, . . . . .	1 "
Adenitis, . . . . .	2 "	Amaurosis, . . . . .	2 "
Bronchitis, . . . . .	2 "	Diseases of Ear, . . . . .	4 "
Asthma, . . . . .	1 "	Tinea Circinata, Prurigo, &c., . . . . .	9 "
Phthisis Pulmonalis, . . . . .	3 "	Elephantiasis of Scrotum (Operation), . . . . .	1 "
Dyspepsia, . . . . .	2 "	Boils, . . . . .	10 "
Dysentery, . . . . .	3 "	Ulcers and Abscesses, . . . . .	4 "
Diarrhœa, . . . . .	34 "	Bruises and Sprains, . . . . .	5 "
Colic, . . . . .	3 "	Fracture of Femur, . . . . .	1 "
Sore throat and Tonsillitis, . . . . .	5 "	Burn, . . . . .	1 "
Subacute Gastritis, . . . . .	1 "	Gun Shot Wounds, . . . . .	4 "
Hepatitis, . . . . .	1 "	Synovitis of Knee Joint, . . . . .	1 "

*Boils* make their appearance every summer, and some of the younger members of the community suffered badly from them this year. The pathology of boils is not well understood, hence the remedies suggested are very numerous, but tonics and alkalies seem to have the preference. So far as I can judge, boils do not seem to attack weak children more than the strong and healthy. Besides a susceptible constitution, it would seem that some local influence is necessary for their production, as in the following case:—A foreign resident here has suffered severely from boils for several summers. When he passed a summer in Foochow he was free from them, nor had he them when he went to England, but when he returned to Canton, after two years' absence, they again appeared. When boils on the face are left to themselves disfigurement sometimes occurs. The Chinese do not use the knife, and I often notice scars on the heads of native children owing to the destruction of skin by the application of plasters having caustic properties.

*Small-pox.*—In the Chinese city there has been no epidemic of small-pox, but scattered cases made their appearance even up to the month of May. Among foreigners two cases occurred, one on board a man-of-war, and the other on shore. The last was varioloid, and ran a mild course. In this case an attempt was made to paint the face with a pretty strong solution of nitrate of silver, but as this gave rise to much pain a milder solution was used. This not having the desired effect, the face was thickly plastered over with a composition of mercurial ointment and powdered starch, and all light was excluded from the room. All these efforts, however, did not prevent some degree of pitting.

A curious case of neuralgia came under notice, the pain being felt over the whole head and even in the cheeks. The pain began about 4 o'clock in the afternoon, and lasted for about 12 hours, increasing in intensity as it went on. I injected  $\frac{1}{2}$  gr. of morphia into the arm, which had a transient effect. Next day  $\frac{1}{2}$  gr. of morphia was injected, which stopped the pain for nearly 24 hours. After 4 days' injection, the patient was so well as not to require the operation any more, and the cure was completed by quinine and iodide of potassium.

*Ipecacuanha in Dysentery.*—So much has been written in praise of this drug in dysentery, that it is well to place on record any case where it has failed. I have been twice disappointed with it this summer. In the first case, 15 grains were given and retained, but though it gave slight relief at first, the tenesmus returned as severely as ever, and so little were the symptoms improved that the patient could not be persuaded to repeat the medicine. In the second case there were great straining, gripes, and pain in the lower part of the abdomen, with scanty stools of blood and mucus. The patient had been ill 17 hours before I saw him. He was ordered at once 40 grains of ipecacuanha. He took at first 25 grains and retained it. Four hours after, seeing no improvement, he took the rest of the powder, 15 grains. I saw him again in the evening, and found that there was absolutely no improvement. He was ordered small doses of mercury every hour, and afterwards castor oil. All traces of blood disappeared in 2 days, and he was comparatively well in 5 days. I do not advocate the use of mercury, but it is well to know that even large doses of ipecacuanha sometimes fail to produce any change or relief.

The general health of the Chinese population in the city was comparatively good, though perhaps not equal to that of the two previous years. No epidemics occurred, but fevers of the severer type appear to have been more than usually prevalent this summer, and much sickness and many deaths were heard of during July and August. Throughout the whole year, but more particularly in summer, the Chinese here suffer from virulent fevers, which they call Chut-pan 出痧, which literally means "spotted fever," though in very few cases are spots visible. The term is applied to all fevers of a more or less continued form, attended with a sense of great distress and oppression at the epigastrium, the latter symptom being considered quite pathognomic. The name thus perhaps includes more than one variety, though I believe the fevers so indicated are mostly severe remittents, taking the continued or typhus form. The following is a description of the disease, as taken down from a native physician who has seen and treated a great number of such cases:—"The fever begins with alternate feelings of heat and cold, and some remissions are observed in the first 3 or 4 days. On the 5th or 6th day it puts on the continued form, with a feeling of great oppression at the epigastrium, frequent pulse, and a tongue coated with yellow and sometimes brownish fur. Delirium sometimes sets in in 7 or 8 days. In some cases the fever begins at once in the continued form. If the patients are not properly treated, death may occur in 8 or 9 days, but more generally in 14 or 15 and sometimes in 20 days, but seldom beyond that, and not so early as 3 or 4 days. Generally, if the fever has gone on without proper treatment for 8 or 9 days, the case becomes difficult, and after 12 or 13 days, is nearly hopeless." He had seen epistaxis in the course of chut-pan, but not hæmorrhage from the bowels. As to the mortality, if the cases are properly treated, it should not be more than 1 or 2 in 10 cases; but as the patients often put off consulting a doctor till they are seriously ill, the general mortality is perhaps 30 or 40 per cent. In a case that I lately saw in Dr. KERR's Hospital, the fever presented almost from the first a continued character, with only slight remissions for 2 or 3 days, and with intense heat and pain in the limbs, and a pulse of 130. The patient died in 14 days. It would seem as if some of the cases are really typhus. A native physician of long practice here told me that, "in some cases, there is a crisis on the 7th day, after which the patient may get well even without medicine. If the patient does not get well then, there is another period of grace of 7 days, when, if no symptoms of amendment present themselves, the case becomes more and more serious. However, in most of the fevers no such regularity of period is observed. Sometimes the fever runs over the whole circle of its course in 1 or 2 days, when the patient dies." Regarding these last mentioned cases, the native account confirms what I have often heard, that in many cases the patients are carried off within 2 or 3 days, and sometimes within 24 hours. I saw a Chinese servant who died in 3 days after he was taken with a fever which was pronounced to be a case of Kap-shik 夾色, and this summer I saw another native in Shamien, who died on the 6th day. Both these patients took Chinese medicine. Do such cases arise from intense malaria, or from some other poison? Professor MACLEAN says that in malarious remittents he has never seen death take place before the 8th day. Doubtless, besides malaria, other poisons give rise to some of the malignant fevers seen here, and in fact on some of them quinine has no influence. Many of the fevers of the Chinese city must have their origin in overcrowding and bad sanitary conditions. These conditions though sometimes

regarded as harmless, because they have given rise to no epidemics of cholera, and, as far as we know, to no marked forms of typhoid fever, have much to do with the production of the severe fevers that prevail every summer.

In the treatment of fevers the Chinese physicians, in some cases, employ diaphoretics, diuretics and sometimes aperients, and in others, medicines that subdue fever without diaphoretic action. In adynamic cases restoratives are prescribed. So far no fault can be found; we can do no more. The most objectionable part of their system is the withholding of food. The diet of a fever patient must contain no fat, and the two most common articles eaten are yam and a large kind of squash, called tung-kwa. Even rice is not allowed, and as to beef and chicken, they are not to be thought of, chicken being considered quite fatal to patients suffering from "spotted fevers." The consequence is that no strength is left to bear up against a long course of fever, and even when convalescence establishes itself recovery is extremely protracted. In cases of what they call "spotted fevers," a very common practice is to relieve the feeling of oppression at the epigastrium by an operation with the needle. The front of the chest is rubbed with some betel leaf, to render the spots visible; then the point of a needle is thrust in wherever spots are supposed to present themselves, and by a little pricking and scratching a fibre of the skin is taken up and cut. This is done in a number of places, generally on the front of the chest, but sometimes on the head, and is supposed to be followed by elimination of poison from the system, and by great relief to the patient. Though so common, this practice is not countenanced by the regular physicians. I have watched this little operation several times, but have, as may be expected, observed no spots.

It is an interesting question whether there is any likelihood of the Chinese abandoning their own and adopting European medicines in the treatment of fevers. So far as I can judge, the prospect is very remote. In the first place, they are well satisfied with their own medicines, which give a fair amount of success; and in the second place, European medicines not having a fair trial in the treatment of fevers among the Chinese, we are unable to demonstrate their decided superiority. Quinine is the only febrifuge we possess which has a decided superiority over those of the Chinese. To show the Chinese the superior efficacy of European medicines, we must be able to effect cures quickly and decidedly, especially in those cases where they fail; and when this is done I have no doubt that, wedded as they may be to their own system, they will in time see the advantages of European methods of treatment. Supposing quinine to have a fair trial, two circumstances will always prevent its superiority being made very evident to the Chinese; first, there are many fevers in which quinine has no sphere of action, and in which expectant and general plans of treatment must be adopted; and secondly, the Chinese can to a very considerable extent cure with their own medicines the cases which it cures. It appears to me from what I have seen and heard, that the Chinese can generally cure intermittent fevers with their own drugs, so that the superiority of quinine is not very marked in their eyes. They use quinine in ague, and this medicine is in increasing demand every year, but in any other form of intermittent fever, not preceded by a regular cold stage, it is not used. In remittent fevers of a paroxysmal character, my impression is that the Chinese also effect many cures, and if the statements of some whom I have consulted on the subject are to be credited, 80 per cent or more of the generality of cases are capable of being cured if the patients put themselves early under proper treatment. Quinine can do more than this; and I have no doubt that, by skilfully using it, the Chinese might prevent many remittent fevers from becoming continued fevers, and save many lives every year. It is most likely that in remittent fevers the decided advantage of quinine will be seen. The difficulty of the Chinese, however, is chiefly felt in those fevers of a continued or typhus type, or presenting a malignant character, but as in such cases quinine often can make but little impression, other European medicines, possessing no specific power over fever, cannot appear to decided advantage. Extensive observation of Chinese fevers is much required if we are to come to accurate conclusions regarding the value of competing drugs in their treatment.



*H.*—Dr. A. G. REID's Report on the Health of Hankow for the half year  
ended 30th September, 1872.

LIST OF CASES treated during 1871 at the London Mission Dispensary for NATIVES.

<i>General Diseases:—</i>			Inflammation of Spinal Cord, 2	Tonsillitis, . . . . . 20	
Continued Fever, . . . . . 29			Atrophy of Spinal Cord, 5	Ulcerated Throat, . . . . . 30	
Febricula, . . . . . 76			Softening of Spinal Cord, . 3	Perforation of Palate, . . . . . 6	
Ague, . . . . . 118			Neuroma, . . . . . 2	Cleft Palate, . . . . . 5	
Remittent Fever, . . . . . 23			Paraplegia, . . . . . 7	Ulcer of Pharynx, . . . . . 2	
Whooping Cough, . . . . . 18			Hemiplegia, . . . . . 19	Abscess of Pharynx, . . . . . 2	
Mumps, . . . . . 6			Facial Paralysis, . . . . . 5	Salivation, . . . . . 3	
Erysipelas, . . . . . 5			Scrivener's Palsy, . . . . . 1	Dysphagia, . . . . . 8	
Chronic Rheumatism, . . . . . 288			Infantile Paralysis, . . . . . 10	Stricture of Oesophagus, . . . . . 1	
Lumbago, . . . . . 47			Tetanus, . . . . . 1	Stricture of Pylorus, . . . . . 2	
Synovial Rheumatism, . . . . . 25			Convulsions, . . . . . 10	Dyspepsia, . . . . . 246	
Hard Chancre, . . . . . 18			Epilepsy, . . . . . 16	Typhlitis, . . . . . 2	
Soft Chancre, . . . . . 25			Shaking Palsy, . . . . . 2	Dysentery, . . . . . 67	
Phagedænic Sore, . . . . . 7			Neuralgia, . . . . . 6	Inguinal Hernia, . . . . . 38	
Sloughing Sore, . . . . . 4			Sciatica, . . . . . 8	Umbilical Hernia, . . . . . 1	
Syphilis, . . . . . 87			Hemicrania, . . . . . 4	Diarrhoea, . . . . . 80	
Hereditary Syphilis, . . . . . 31			<i>Diseases of the Respiratory System:—</i>		
Medullary Cancer, . . . . . 5			Coryza, . . . . . 40	Constipation, . . . . . 14	
Scirrhus, . . . . . 1			Inflammation of Epiglottis, 3	Colic, . . . . . 17	
Epithelioma, . . . . . 3			Laryngitis, . . . . . 13	Fistula in Ano, . . . . . 13	
Cartilaginous Tumour, . . . . . 1			Bronchitis, . . . . . 250	Ulcer of Anus, . . . . . 4	
Vascular Tumour, . . . . . 2			Asthma, . . . . . 24	Abscess of Anus, . . . . . 6	
Nævus, . . . . . 15			Pneumonia, . . . . . 10	Fissure of Anus, . . . . . 2	
Glandular Tumour, . . . . . 2			Hæmoptysis, . . . . . 11	Prolapsus of Anus, . . . . . 7	
Condyloma, . . . . . 52			Emphysema, . . . . . 33	Condyloma of Anus, . . . . . 40	
Keloid, . . . . . 6			Pleurisy, . . . . . 9	Pruritus of Anus, . . . . . 5	
Cystic Tumour, . . . . . 12			Hydrothorax, . . . . . 6	Abscess of Liver, . . . . . 1	
Lupus, . . . . . 17			<i>Diseases of the Digestive System:—</i>		
Elephantiasis Græcorum, . . . . . 80			Harelip, . . . . . 12	Enlargement of Liver, . . . . . 11	
Scrofulous Glands, . . . . . 76			Stomatitis, . . . . . 4	Cirrhosis, . . . . . 5	
Strumous Ophthalmia, . . . . . 20			Thrush, . . . . . 11	Jaundice, . . . . . 9	
Phthisis Pulmonalis, . . . . . 118			Cancerum Oris, . . . . . 3	Hypertrophy of Spleen, . . . . . 28	
Tabes Mesenterica, . . . . . 14			Ranula, . . . . . 1	Ascites, . . . . . 20	
Rickets, . . . . . 8			Adhesion of Jaws by cicatrix, 1	Chronic Peritonitis, . . . . . 4	
Tubercular Peritonitis, . . . . . 3			Abscess of Antrum, . . . . . 4	Non-malignant Tumour of	
Purpura, . . . . . 4			Caries of Teeth, . . . . . 21	Abdomen, . . . . . 5	
Anæmia, . . . . . 85			Gumboil, . . . . . 6	<i>Diseases of the Urinary System:—</i>	
Chlorosis, . . . . . 17			Ulceration of Gums, . . . . . 8	Bright's Disease, . . . . . 20	
General Dropsy, . . . . . 15			Atrophy of Gums, . . . . . 3	Suppurative Nephritis, . . . . . 1	
<i>Disease of the Nervous System:—</i>			Epulis, . . . . . 5	Cystitis, . . . . . 6	
Chronic Hydrocephalus, . . . . . 2			Necrosis of Alveoli, . . . . . 3	Hæmaturia, . . . . . 5	
Sanguineous Apoplexy, . . . . . 2			Ulcer of Tongue, . . . . . 9	Abscess of Prostate, . . . . . 1	
Embolism, . . . . . 1			Quinsy, . . . . . 5	Enlargement of Prostate, . . . . . 4	
				Gonorrhœa, . . . . . 34	
				Phymosis, . . . . . 12	

*Diseases of the Urinary System:—*

Paraphymosis, . . . . .	7
Bubo, . . . . .	37
Orchitis, . . . . .	8
Gleet, . . . . .	15
Stricture, . . . . .	3
Urinary Fistula, . . . . .	2
Extravasation of Urine, . . . . .	1
Abscess of Penis, . . . . .	2
Hydrocele of Cord, . . . . .	2
Varicocele, . . . . .	5
Hydrocele of T. Vaginalis, . . . . .	13
Hæmatocele, . . . . .	1
Encysted Hydrocele, . . . . .	1
Hernia Testis, . . . . .	4
Chronic Orchitis, . . . . .	3
Spermatorrhœa, . . . . .	27
Impotence, . . . . .	5
Ovaritis, . . . . .	2
Ovarian Dropsy, . . . . .	4
Pelvic Cellulitis, . . . . .	1
Abscess of Vulva, . . . . .	1
Leucorrhœa . . . . .	40
Amenorrhœa, . . . . .	8
Dysmenorrhœa, . . . . .	4
Vicarious Menstruation, . . . . .	2
Menorrhagia, . . . . .	21
Ulcerated Nipples, . . . . .	3
Abscess of Breast, . . . . .	8
Sinus of Breast, . . . . .	2

*Diseases of the Circulatory System:—*

Pericarditis, . . . . .	9
Valvular Diseases, . . . . .	64
Hypertrophy of Heart, . . . . .	10
Aneurism, . . . . .	4
Aneurism by Anastomosis, . . . . .	2
Phlegmasia Dolens, . . . . .	2
Varicose Veins, . . . . .	23

*Diseases of the Eye:—*

Conjunctivitis, . . . . .	132
Catarrhal Ophthalmia, . . . . .	60
Pustular Ophthalmia, . . . . .	22
Purulent Ophthalmia, . . . . .	34
Chronic Ophthalmia, . . . . .	40
Pterygium, . . . . .	52
Keratitis, . . . . .	88
Chronic Interstitial Keratitis, . . . . .	12
Onyx, . . . . .	12
Ulcer, . . . . .	19
Leucoma, . . . . .	87

Staphyloma, . . . . .	17
Sclerotitis, . . . . .	15
Iritis, . . . . .	20
Amaurosis, . . . . .	13
Impaired Vision, . . . . .	25
Muscæ Volitantes, . . . . .	9
Cataract, . . . . .	16
Glaucoma, . . . . .	10
Nyctalopia, . . . . .	1
Lachrymal Obstruction, . . . . .	6
Lachrymal Abscess, . . . . .	8
Entropium, . . . . .	27
Ectropium, . . . . .	5
Trichiasis, . . . . .	38
Hordeolum, . . . . .	6
Tarsal Ophthalmia, . . . . .	28
Cysts of Lids, . . . . .	4
Abscess of Orbit, . . . . .	3
Osseous Tumour of Orbit, . . . . .	1
Cancerous Tumour of Orbit, . . . . .	1

*Diseases of the Ear:—*

Inflammation of External Meatus, . . . . .	15
Abscess, . . . . .	8
Polypus, . . . . .	6
Accumulation of Wax, . . . . .	3
Ulceration of Membrana Tympani, . . . . .	2
Perforation of Membrana Tympani, . . . . .	8
Deafness, . . . . .	21
Disease of Mastoid Cells, . . . . .	6
Deaf Dumbness, . . . . .	2

*Diseases of Nose:—*

Ozena, . . . . .	4
Abscess of Septum, . . . . .	2
Epistaxis, . . . . .	4
Polypus, . . . . .	8
Perforation of Septum, . . . . .	1

*Diseases of the Cutaneous System:—*

Erythema Marginatum, . . . . .	45
Roseola, . . . . .	4
Urticaria, . . . . .	3
Prurigo, . . . . .	80
Lichen, . . . . .	23
Pityriasis, . . . . .	20
Psoriasis, . . . . .	4
Herpes, . . . . .	6
Eczema, . . . . .	113
Impetigo, . . . . .	29

Rupia, . . . . .	13
Ecthyma, . . . . .	25
Acne, . . . . .	8
Ichthyosis, . . . . .	2
Leucoderma, . . . . .	5
Frostbite, . . . . .	3
Ulcer, . . . . .	138
Boils, . . . . .	26
Carbuncle, . . . . .	16
Onychia, . . . . .	12
Whitlow, . . . . .	18
Nævus Stain, . . . . .	6
Scabies, . . . . .	334
Tinea Favosa, . . . . .	4
Tinea Tonsurans, . . . . .	7

*Diseases of Organs of Locomotion:—*

Periostitis, . . . . .	43
Nodes, . . . . .	20
Acute Necrosis, . . . . .	2
Caries, . . . . .	14
Necrosis, . . . . .	37
Spontaneous Fracture, . . . . .	1
Exostosis, . . . . .	5
Synovitis, . . . . .	17
Ulceration of Cartilages, . . . . .	6
Anchylosis, . . . . .	6
Relaxation of Ligaments of Joints, . . . . .	4
Psoas Abscess, . . . . .	3
Curvature of Spine, . . . . .	21
Club Foot, . . . . .	2
Wry Neck, . . . . .	3
Bunion, . . . . .	10
Ganglion, . . . . .	2
Bursitis, . . . . .	4
Abscess of Cellular Tissue, . . . . .	74

*Injuries:—*

Contusion, . . . . .	17
Wound, . . . . .	12
Fracture, . . . . .	6
Dislocation, . . . . .	5
Burns and Scalds, . . . . .	10
Sprain, . . . . .	19
Bite by Man, . . . . .	5
Snake Bite, . . . . .	1
Bite by Dog, . . . . .	3
Opium Smoking, . . . . .	40
Opium Poisoning, . . . . .	2

The surrounding country districts furnished a large proportion of the fever cases, and the great majority of these were clearly of a malarial nature, 118 having been registered as intermittent, and 23 as remittent fever. Among the 29 examples classed as continued fever and the 76 placed under the head of febricula, there were likewise several no doubt originating from malarious influences, but the patients declined to remain under observation, so as to enable the species of the fever to be accurately decided. It has hitherto, generally, been found impossible to induce continued fever patients to reside in hospital, as neither they nor their friends comprehend the natural resolution of many fevers; they expect, and are clamorous for the promise of remedies which will forthwith extinguish the disorder. Their ideas and conduct in the matter of fever may be gathered from a recent case in point. A patient was brought in on October 22nd, stated to have been ill 21 days of a fever accompanied with purging. During the period of his sickness he had been attended by 12 native doctors, each of whom had promised his friends a certain and immediate cure, and they had not been sparing in the use of drugs, judging from the size and variety of a bundle of prescriptions shown me. During the 18 days previous to admission he had only partaken of tea and physic, and had become extremely emaciated, prostrate and delirious. Throughout the night the patient seems to have become excited, and his brother, imagining this due to the milk given him, insisted on removing him home to try a fresh member of the native faculty. The temperature noted in the morning was  $101.8^{\circ}$  and in the evening  $102.4^{\circ}$ ; there was no purging or trace of eruption. I looked upon the case as a specimen of the malarial fever which was extremely prevalent this year in the city and outskirts of Hanyang, but the classification of such cases must remain doubtful until the time comes when the disease can be investigated in its haunts, or the natives acquire sufficient confidence to trust themselves in hospital.

Six cases of intermittents were treated with preparations of the *Eucalyptus globulus*, and with the following results:—The 2 first were examples of quotidian ague, and to each one drachm doses of the liquid extract were given 3 times a day over a period of 3 days, without producing the slightest effect on the fever. The patients becoming anxious to return home, quinine was successfully employed. In the 3rd example, I tried much larger doses of the remedy; it was a recurrence under the tertian form of a quotidian formerly treated with quinine. One drachm doses of SAVORY and MOORE'S liquid extract, were administered every second hour through the day of the second return of the paroxysm, and the effects may be judged from the temperature. On August 12th, at 3 P.M.,  $104^{\circ}$ ; at 9 P.M.,  $102^{\circ}$ . August 13th, 3 P.M.,  $98^{\circ}$ ; 9 P.M.,  $98.2^{\circ}$ . August 14th, 6 A.M.,  $98.4^{\circ}$ ; 9 A.M.,  $102^{\circ}$ ; 11.30 A.M.,  $104^{\circ}$ ; 3 P.M.,  $99.4^{\circ}$ ; 9 P.M.,  $97.8^{\circ}$ . It will be seen that the fever was not improving, as the period of accession of the paroxysm on the 14th had anticipated that on the 12th. During the 14th, 7 drachms of the remedy were taken, and similar doses were continued for 2 days. From the 15th to the 22nd the temperature never rose above  $98^{\circ}$ , but on the latter day the fever returned, possibly in consequence of a visit to a highly malarious neighbourhood. On the 22nd at 3 P.M., the temperature was  $99.8^{\circ}$ ; at 9 P.M.,  $98^{\circ}$ . August 23rd, at 3 P.M.,  $97.2^{\circ}$ ; at 9 P.M.,  $98.4^{\circ}$ . August 24th, at 3 P.M.,  $105^{\circ}$ ; at 9 P.M.,  $102^{\circ}$ . Throughout the 24th the *Eucalyptus* was administered in large doses, and the temperature never again reached  $99^{\circ}$ , the fever having completely disappeared. In the 4th case, that of a quotidian ague, stated to have been going on for 8 days, the temperature was on August 23rd, 2 P.M.,  $102^{\circ}$ ; at 6 P.M.,  $105^{\circ}$ . August 24th, 9 A.M.,  $97.8^{\circ}$ ; 6 P.M.,  $101^{\circ}$ . August 25th, morning and evening temperature  $97^{\circ}$ , and no return of the fever during 3 subsequent days, after which he left the hospital. From August 23rd to August 27th drachm doses of the liquid extract were taken 6 times a day. In the 5th instance, a tertian ague had been going on for 10 days. Temperature on August 14th at 11.30 A.M.,  $105^{\circ}$ ; at 3 P.M.,  $101.8^{\circ}$ ; at 8 P.M.,  $97.4^{\circ}$ . The drug was given in full doses and there was no return of fever up to the 18th when the patient left for his home. In the 6th case, the regular stages of an intermittent set in at 10 A.M. on August 20th; the temperature noted at 5 P.M. was  $105^{\circ}$ , and at 10 P.M.,  $100^{\circ}$ , with free perspiration going on. Full doses of the remedy were given every fourth hour, and there was no return of the fever during the ensuing week.

These are the only instances in which I have hitherto been able to watch the course of intermittent fever treated with the *Eucalyptus globulus*, over a sufficient period to give a little value to the observations. In the fevers of this country the dose must probably be much larger than what has been found effectual in

the milder intermittents of Europe. Such doses as were given in most of the foregoing cases were taken without other inconvenience than frontal headache and a feeling of nausea, both of which soon disappeared when the remedy was given up. My experience has been too limited to enable me to place a value on the drug, but if the results of its use in other hands will confirm the encomiums passed on it by GUBLER, the introduction of the tree into the malarious districts of China must prove of inestimable value in curing not only fevers but many of the other ills that flesh is heir to; witness, for example, its use in allaying some of the distressing symptoms of aortic aneurism, and in cardiac asthma as detailed by Professor MACLEAN in the *Practitioner* for November 1871.

*Chronic Rheumatism* included 360 cases. Usually the fibrous textures about the joints, or the fasciæ, tendons and muscles were attacked. The acute variety was rarely heard of and never met with, although frequent enquiry was made among the chronic sufferers. The causes of the prevalence of rheumatism are not far to seek where the general health of the population is lowered by malaria, bad diet, damp dwellings, and where, at certain seasons of the year, there are great and sudden changes of temperature. The disease was met with as frequently during the hot as during the cold months, probably on account of the greater prevalence of malaria at that time, and the habit of the country people of continuing to live in their houses while they may be inundated by the overflow of the rivers. The rarity of the acute form cannot be altogether due to a feeble development of the rheumatic poison in the blood, but may possibly arise from its rapid elimination through the skin during the hot summer months, and likewise to the more sluggish, inactive disposition of the native rendering his system less liable to be roused, so as to produce acute symptoms.

*Syphilis*.—141 cases of primary sore or constitutional syphilis, 31 of hereditary syphilis, 40 of condylomata of the genitals or anus, 119 of urethritis or affections consequent on it, presented themselves for treatment. The majority of the patients were married, and either living with their wives, or in the habit of visiting them if at a distance, while the progress of the disease was still unchecked. So long as the more painful and pressing symptoms could be got rid of they left contented, and gave up treatment until driven back by a return of the malady. The prevalence of syphilis among the lower orders must lead to cachexia and premature decay of the individual and of his offspring; but although its occurrence among the married class, and the carelessness they displayed about constitutional treatment, led one to suppose that it must exert a widespread evil influence, no more information could be gathered on this point than what was obtained about the 31 instances of hereditary syphilis. These cases were all children under 2 years of age, and 22 of the mothers stated that they had suffered from syphilitic eruptions; many of them had produced other children exhibiting the syphilitic taint, or had suffered from repeated miscarriages. With 4 exceptions, these 22 accused their husbands of having communicated the disease to them, and the other 4 stated that they had become affected during a compulsory residence with the rebels. Among the adults, tertiary affections of the bones, ulcers of the skin or throat, brought more patients than came on account of the secondary skin eruptions; but this probably arose from the greater inconvenience caused by the former symptoms.

The subject of pulmonary phthisis is one of great interest to the medical observer stationed among the natives of China, inasmuch as if the disease be rarely met with it will show that certain elements now supposed to be powerful agents in rendering phthisis prevalent among a population have been over-estimated as regards their evil influence on the body, or that some other conditions exist which modify or neutralise them. In Europe it is supposed that "from a seventh to a fifth of all deaths are the result of this disease, and that in nearly half of all cadavers we find traces of the nutritive disorders from which pulmonary consumption proceeds" (NIEMEYER). Throughout the various countries of Europe it is found to prevail, although believed to occur less frequently in high altitudes, and in the coldest regions of the north. The opinion once held, that warmth of climate prevents the development of the disease, is now known to be erroneous. HIRSCH, for instance, declares "that the mean temperature due to the geographical and territorial situation of a place has absolutely no influence whatever upon the production and frequency of consumption." Dr. PARKES corroborates this view by the statistics of death in the army. He says "the table seems to me to show clearly that the immense range and variation of climate in which the troops

"serve in India, produce no effect whatever upon the production of phthisis; and this inference is again strengthened by the fact that the mortality in Bengal from phthisis is almost precisely the same as in "Canada." Dr. BILLING in his work on the Principles of Medicine expresses himself thus:—In my opinion, "the advantage of breathing warm air is very much overrated. We uniformly see that real consumption "(tubercular) runs its course rapidly in Italy, or in any warmer climate; such at least is the result of my "observations." Dr. FULLER also states that in many of the usual resorts of consumptives, such as France, Italy, Malta, Madeira and the northern shores of the Mediterranean, "the mortality among the natives from "phthisis equals, and in many cases exceeds, that which obtains in many parts of our own country." The Australian climate, which has latterly been considered antagonistic to phthisis, is now shown to have no such influence. Dr. THOMSON in his enquiry into the statistics of the mortality of Melbourne and its vicinity, showed that 1 in every 10 deaths arose from phthisis, and further that the disease was increasing with an increase of the population till the death rate now equals "and even probably exceeds that of the "mother country," and he holds that the Australian climate with its mild winters, its sunny days and balmy nights has no "specific influence in preventing and controlling the development of pulmonary consumption" (*Edinburgh Medical Journal*, November 1871). Recently Nubia has been put forward as an anti-tuberculous climate by Dr. WILLIAMS. He thinks "that if it were given to any association of climatic conditions, "exclusive of low barometric pressure, to stamp out the tuberculous evil from a northern constitution, Nubia, "I believe, might lay claim to the possession of the marvellous combination." It is not likely, however, that this belief will be practically put to the test for some time to come. If warmth of climate exerts no influence in limiting the frequency of consumption among the population, are there other influences which may tend to its increase, and which are to be found in many parts of China? An abundance of soil moisture has been shown by Dr. BOWDITCH of Boston, to be intimately connected with the prevalence of phthisis; and Dr. BUCHANAN in investigating this point has brought forward so many facts from the registration returns of English towns to prove that the death rate of phthisis in these towns depends upon the efficiency of the drainage, that Mr. SIMON declares that "dampness of soil is an important cause of phthisis to the population "living on that soil." Now, around here, in the towns and in the country districts, drainage is either unattempted or most ineffectually carried out, and during several months of the year the subsoil water is either close to the surface of the ground, or both town and country are more or less submerged by the overflow of the rivers.

Impure air and want of exercise have also been shown to be active causes in the development of phthisis. The former clearly enough from the prevalence of the disease in most European armies, in the royal and merchant navies, in prisons and in crowded schoolrooms and workshops, and from a rapid decrease in frequency in those instances where the only alteration of conditions has been an increase of cubic space per man. It is in fact to this greater lateral separation of men in Indian barracks, and not to any effects of climate, that Dr. PARKES is inclined to ascribe the diminished mortality from phthisis in the Indian, compared with the home army. The injurious effects of impure air and want of exercise in producing phthisis is also seen among the Swiss women in many places on the lower Alps, to which strangers resort with benefit. The prevalence of phthisis among the natives is due to those engaged in making embroidery assembling in small ill-ventilated rooms, obliged to occupy a constrained position, and living on a poor diet. Scrofula is very common among them; but the men who lead an outdoor life escape. "Therefore in the very place "where strangers are getting well of phthisis, the natives die of it—another instance that we must look to "local conditions and social habits for the great cause of phthisis. It would seem probable that, after all, "it is not indeed elevation and rarefaction of air, but simply plenty of fresh air and exercise, which cures "phthisis." Other noxious influences which debilitate the body also tend to produce this disease, or intensify an inherited disposition to it, such as insufficient and improper food, venereal excesses, long continued suckling, &c. Not only in man, however, but also in animals, confinement and breathing an impure atmosphere has been found to create a tendency to phthisis, as seen in the mortality from consumption among cows in town dairies and among the monkeys in the Zoological Gardens.

Hæmoptysis was noticed by Dr. Porter Smith as being extremely frequent among the Chinese. He writes, "the natives spit blood with little or no provocation at all" (Report, 1864), but he did not consider that evil consequences resulted from this, or that phthisis was a prevalent disease, and he suggested that it might be due to the great frequency of chronic bronchitis. Now, NIEMEYER holds that one of the results of bronchitis, namely emphysema of the lungs, materially influences the production of cheesy degeneration in the event of an attack of pneumonia; and he likewise writes concerning hæmoptysis, "I do not hesitate to say that in the majority of cases, hæmoptysis is followed by a more or less serious irritation of the lungs or pleura," although this most commonly terminates in resolution. It is a feature of bad omen, not only from the risks of irritation of lung tissue subsequent to the hæmorrhage, but also because "experience teaches that the morbid friability of the branches of the bronchial artery terminating in the bronchial mucous membrane is, as a rule, associated with a tendency to inflammatory diseases of the pulmonary tissue, whose nutrition depends upon the bronchial arteries."

I have briefly alluded to some of the causes of consumption which exist here, and which are followed, as might be expected, by a prevalence of the disease as shown by the number of cases (118) met with during the year. My results differ from those arrived at by some other observers, but I am inclined to think mine are correct, as the limited number of daily applicants at the dispensary afforded me ample time to investigate carefully every case of chronic pulmonary disease. If the reverse of this were true, and phthisis turned out to be a rare disease among the natives, it would be interesting to investigate the reason of this exemption, since we know that it cannot be ascribed to climate alone. More than half the town population are debarred from exercise, and rarely if ever inhale fresh air; the country people chiefly live on a vegetable diet, and often partake of it in insufficient quantity for the purposes of nutrition; the sub-soil in many places and at certain seasons is saturated with moisture; the general health is deteriorated by the action of malaria; and lastly, hæmoptysis is acknowledged to be a common occurrence. If consumption did not follow as a consequence of all this, we should have a result different from what has been observed in other parts of the world where like predisposing conditions are found. Supposing phthisis to be rare, its rarity cannot be ascribed to the absence of a special tubercular diathesis among the Chinese, since the researches of German pathologists have demonstrated that this disease, in the vast majority of cases is, at its outset, a cheesy degeneration of inflammatory products, and that this may supervene on any inflammation of the lungs, although most frequently following chronic catarrhal pneumonia, and further that tubercle is a secondary result produced "by the action of cheesy morbid products on the organism." This tendency to cell hyperplasia and cheesy degeneration is fostered by causes which deteriorate the health, whether acting from without or from within the body, and both classes are frequent enough in China.

#### CASES OF ANÆSTHETIC LETROSY.

1.—Æt. 35; a labourer from Hwampi; married 13 years, and has 3 children aged respectively 12, 11 and 6 years; these as well as his wife are free from numbness. Father æt. 60; mother 58; both in good health. Two uncles on mother's side died of consumption, and a first cousin on father's side is a leper, but dwells in another village. In the place where he resides there are about 250 inhabitants, but he is the only one affected by leprosy, and he says that his father informed him there had not been a leper in the village within his recollection. Lives with his parents, and in their house there are in all 16 persons. The place is agreeable, and he used to suffer from fever up till the date of his present disease. The numbness first appeared over the left deltoid about 12 years ago, and thereafter on the neck and face. So far as he can recollect the latter were attacked within the past 8 years; the body and left hand within 7 years; left thigh 6 years; right thigh 4 years; and right hand 2 years ago. Red blotches came out on the surface of his body 8 years ago, but faded away, and since then have not reappeared. An ulcer also broke out on his left heel 2 years ago, but is now closed up.

The face has a mask like appearance, the lower lip hangs down unless when jerked up and caught between the teeth. Voluntary movements of occipito-frontalis, muscles of upper and lower lips and of eyelids

are almost annihilated, and these muscles do not respond to the galvanic current. The conjunctival and mucous membranes of the nose and throat are congested and thickened, the cartilage of the septum has been destroyed, and the nose is sunken. The eyebrows and eyelashes have fallen, the hair of the scalp is normal. There is wrist drop of the left hand, it can neither be flexed, extended nor rotated. The muscles of the left forearm are extremely wasted, and also those of the palm of the hand; the thenar and hypothenar eminences have disappeared. The fingers are flexed at the phalangeal joints. The muscles of the left arm are likewise weak, and when the forearm is about one-half extended, it suddenly drops with a jerk. In the right hand the 3 inner fingers are bent, hypothenar eminence wasted, thenar normal, and muscular development of forearm fairly good, measuring  $9\frac{1}{2}$  inches in circumference, while the left measures only 6 inches. The right arm measures 10, and the left 8 inches in circumference. To galvanism the muscles of the left forearm are inactive, the biceps acts freely, but the deltoid and triceps extremely feebly; sensibility to the current has disappeared from below the elbow. In the right hand the 3 inner fingers and palm of the hand in line with them are not acted on by the current. The current was not felt when applied to the right foot, or to the lower third of the left leg and foot; the right extensors of toes and both gastrocnemii muscles contracted but very feebly. The left vastus and extensor cruris were more wasted than those of the right side. The cremasters could be made to draw up the testicles forcibly, and the patient said that sexual power still existed.

The patient remained in hospital from the 26th June to the 24th July. Up to July 10th the morning and evening temperatures were not under  $98.4^{\circ}$  or above  $99.8^{\circ}$ . Quinine was taken in 5 gr. doses, but on the evening of July 10th the temperature was  $100^{\circ}$ , and during the following 6 days was  $99^{\circ}$ ,  $100^{\circ}$ ;  $97^{\circ}$ ,  $99.8^{\circ}$ ;  $98.6^{\circ}$ ,  $100^{\circ}$ ;  $98.4^{\circ}$ ,  $100.2^{\circ}$ ;  $98.6^{\circ}$ ,  $100.4^{\circ}$ ;  $98.4^{\circ}$ ,  $98.4^{\circ}$ ; thereafter it fell below  $98.4^{\circ}$ , being  $97.6^{\circ}$ ,  $98^{\circ}$ ;  $97.6^{\circ}$ ,  $97.8^{\circ}$ ;  $97.8^{\circ}$ ,  $98^{\circ}$ . The patient left hospital but returned on October 16th. The temperature then was  $97.6^{\circ}$ ,  $97.6^{\circ}$ ;  $96^{\circ}$ ,  $96.8^{\circ}$ ;  $96^{\circ}$ ,  $97^{\circ}$ ;  $97^{\circ}$ ,  $97.2^{\circ}$ ;  $96^{\circ}$ ,  $97.8^{\circ}$ ;  $96.8^{\circ}$ ,  $97.8^{\circ}$ ;  $97^{\circ}$ ,  $98^{\circ}$ . The quantity of urine daily during the febrile period had been about 22 ounces, but during the low temperature period it amounted to from 40 to 48 ounces daily.

2.—*Et. 21*; a scholar from Hwampi district; a widower and lost his wife from a disease attended with cough, emaciation and hæmoptysis. Lives in a town containing over 3,000 residents, and knows of one other leper there, but is not related to him. His cousin on the mother's side is a leper, and the only one he believes in the village where his uncle dwells. Occupies a house along with 2 married brothers and their wives, and 1 unmarried brother; these are all free from numbness. Parents are both dead, but does not know of what ailments. Lives on vegetables and rice; never tastes fish or flesh. The place whence he comes is very aguish, and he has repeatedly suffered from fever, but apart from this he has enjoyed good health up to the present attack. The disease began 3 years ago with numbness of the middle finger of the left hand, accompanied with feverishness which continued the greater part of a year, and during this period the numbness spread up the forearm, the hand becoming atrophied and the fingers flexed. In the second year of the complaint, numb patches broke out on the right foot and right temple, and within the past year anæsthesia has increased till it now involves nearly the whole of the upper and lower extremities and face. He has become weak and emaciated since the onset of the illness, although his appetite has been good throughout. There is loss of hair of scalp, eyebrows, &c. The left thenar and hypothenar eminences have disappeared; the fingers are half flexed and cannot be separated in the slightest; the dorsal interosseous spaces are hollow. Right hypothenar eminence partially wasted. He cannot elevate his eyebrows or raise the right half of his upper lip or depress his right lower lip. The reaction of the muscles of the extremities to the galvanic current is very feeble, but those of the left forearm and right leg are especially unresponsive. The patient was only 2 days under observation. The temperature was  $98.2^{\circ}$  and the sensibility of the skin as follows:—Anterior surface of right upper extremity, back of right hand, front of left forearm and the hand, whole of left lower extremity, right lower extremity except anterior surface of thigh, 0; posterior surface of the forearms, 35; posterior surface of right upper arm, 22; posterior surface of left upper arm, 26; skin of right cheek 10; skin of left cheek, 9, (instrument applied transversely); forehead, right side, 23; forehead, left side, 19, (instrument applied longitudinally). Patient has been completely impotent for 1 year past.

3.—*Æt.* 32; a pedlar; unmarried; comes from a village on the banks of the Han about 60 *li* from Hankow. Both his parents died about 28 years ago, but he does not know of what ailments. Has heard that one of his father's brothers was a leper. Has a brother and sister, both of whom are well. In the neighbourhood in which he resides there are lepers, but none in his native village beyond himself. From his 10th to his 20th year he suffered frequently from ague and fevers. In his 24th year he had an attack of small-pox, and immediately after recovering, noticed a numb spot on the left palm, and another on the sole of the left foot. After a year's interval the right hand and foot became similarly affected. From this date the disease gradually spread upwards till it involved the whole of both upper and lower extremities. In the second year of the malady the fingers of the left hand assumed a semiflexed position, and the flexure of the right fingers followed in the succeeding year. In the fourth year an ulcer broke out on the right heel, and in the fifth year another similar sore appeared on the ball of the left little toe. Last year he noticed a numb patch on the left cheek, and from this centre the anæsthesia gradually spread over the face, but he says it is most intense on the left side. Within the last 5 months a red eruption appeared on the face, the mouth was drawn to the left, and difficulty was experienced in closing the eyelids.

At present the third and second phalanges of the left hand are much wasted, shortened and flexed on the first; there is not the slightest power of moving the fingers; the thenar and hypothenar eminences are wasted completely. In the right hand the phalanges are *not shortened*, but are flexed, and can only be slightly extended. The patient cannot close his eyelids forcibly; the left lid is especially slow in its movements; he cannot draw his mouth forcibly to the right or left, and in projecting the lower jaw it is jerked from the right to the left side. The tongue can be bent to touch the hard palate, but not over the upper or lower lip. The eyebrows are scanty, the hair of the head and over pubis normal. In walking, the feet are suddenly jerked up at the heel, and the toes are pointed downwards. The patient has been absolutely impotent for 5 months, and sexual power was feeble for several years previously.

On applying a BUNSEN'S battery, the fingers were found perfectly insensible to the current. Slight sensibility existed in the palms, but none and no muscular movement in the back of the left forearm. The left flexors of the fingers and the muscles of the right forearm contracted, but with little power. Both deltoids and left latissimus dorsi are greatly wasted. The muscles of the hip are also much wasted, but most so on the left side. Over the right extensor cruris and left vastus externus there is flattening, and the muscles contract less powerfully than those of the opposite side. Below the knee, sensibility has disappeared, and only the left gastrocnemius responds to the current. In the face, the right depressor anguli oris and depressor labii inferioris contract, but the other muscles are inactive under the current.

The sensibility as measured by the æsthesiometer was as follows:—In the upper extremities from below the elbows, and in the lower extremities with the exception of the front of the left thigh, the two points of the instrument could not be detected when stretched to the full extent. Over the front of the left thigh the distance was 10 lines; over front of right arm, 11 lines; over front of left arm, 15 lines; over back of right arm, 10 lines; over back of left arm, 15; over the right deltoid, 27; over the left deltoid, 25; right cheek, 10; left cheek, 13; forehead, 10; chin, 0; right pectoral region, 9; left, 11; right hypochondrium, 12; left hypochondrium, 12; epigastrium, 12; right scapular region, 14; left, 14; lower dorsal region, 13; lumbar region, 13; right hip, 15; left hip, 0.

The patient resided 6 days in hospital, and during that period the morning and evening temperatures were as follows:—101°<sup>0</sup>, 101.4°<sup>0</sup>; 101°<sup>0</sup>, 101.8°<sup>0</sup>; 99.8°<sup>0</sup>, 101.6°<sup>0</sup>; 100°<sup>0</sup>, 100.8°<sup>0</sup>; 100.4°<sup>0</sup>, 102.2°<sup>0</sup>; 99.2°<sup>0</sup>, 103°<sup>0</sup>. During the latter 3 days of his residence quinine was given in 5 gr. doses four times daily. The daily quantity of urine over the same period was 42, 40, 36, 32, 28 and 26 ozs. Its sp. gr. was 1.020, 1.015, 1.013, 1.019, 1.017 and 1.017.

4.—*Æt.* 32; unmarried; born at Yanglow, but has lived for the past 10 years in the suburbs of Hankow. Parents alive, and father has had a numb patch on the left thigh for many years. Two brothers are alive and healthy; 1 died of small-pox. Lives with a brother and friend, and all three have occupied the same house and slept on the same boards for years; the former are quite well. He does not know of any lepers in his neighbourhood; but in his native village there is one leper in 300 residents. The disease began 4½ years



ago with a numb patch on the back of the right forearm, and after an interval of 6 months similar patches broke out on the lower extremities, and subsequently on the left forearm. The face was attacked within the last 6 months, and from that date the eyebrows, eyelashes and the scalp hair have partially fallen; the hair over the pubis is normal, but the sexual propensities are impaired. Vermicular movements are evident in both triceps muscles, in both levators of the upper lip, orbiculares oculorum, right and left vastus, left extensor cruris and left gastrocnemius. The right hypothenar eminence has disappeared, and the right ring and little fingers are drawn back at the metacarpo-phalangeal joint, and slightly flexed at the first phalangeal joint. The left palm is not so much wasted, but he cannot spread out the three inner fingers. Vermicular movements are very distinct in the right extensors of the fingers, and these muscles are more wasted than those of the left forearm. The skin over the extremities is dry, smooth, glistening, shrivelled and divided by numerous lines filled with white scales.

The patient remained 13 days in hospital. During the first 3 days, no medicine was administered; the temperature was morning and evening 99.4°, 99.8°; 99.8°, 100°; 99.6°, 100.2°; quinine in 5 grain doses 4 times a day was then given, and the temperature continued as follows:—99.6°, 100.2°; 99.6°, 99.8°-99.2°, 100°; 99.4°, 100.4°; 99.4°, 100.6°; 99.8°, 100.6°; 99°, 100.8°; 100°, 101°; 100.4°, 100.8°. Quantity of urine over same period 40, 42, 36, 40, 40, 40, 38, 30, 34, 38, 40, and 40 ozs. Its sp. gr. was 1.021, 1.020, 1.025, 1.027, 1.025, 1.020, 1.020, 1.024, 1.019, 1.020 and 1.024.

The sensibility of the skin, as taken by the æsthesiometer, was as follows:—Hands, 0; right forearm in front, 25; left forearm in front, 20; right arm in front, 30; left arm in front, 22; right and left forearms, posterior surface, 0; right arm, posterior surface, 35; left arm, posterior surface, 25; anterior surface of thighs, 30; elsewhere on lower extremities, 0; over pectorals, 15; left scapular region, 35; right, 0; lower dorsal region, 30; right cheek, 16; left cheek, 15; forehead, 15.

5.—Æt. 53; a labourer from Shian-kan; married, and has had 5 children; 2 of these died of small-pox; the eldest living is 23 years and the youngest 6 years of age; they are healthy. Father died æt. 67, and mother æt. 70. Had 1 brother who died of consumption, and has 2 sisters alive and in good health. Never heard of the existence of leprosy among near relatives. Is the only leper in his village, which contains about 100 people, but remembers a leper dying there 20 years ago, and another 15 years back. Lives on vegetables and rice with fish once or twice a month. The district is very aguish, and he has frequently suffered from ague. The disease began 2 years since with febrile symptoms accompanied with falling of eyebrows and eyelashes, red patches on the right leg which faded in the course of a month or so but left numbness. The disease then broke out on his right foot; and 15 months since the left leg and foot were attacked in a similar manner. Four months ago the upper extremities, especially along the posterior surfaces of the forearms, became numb, and anæsthesia appeared in the face about the same date. Within the past 3 months the hair of the pubis has fallen, and impotency has likewise occurred. There is no special muscular wasting, and the movement of the face, fingers and toes is normal. There are several tubercles on the skin of the face and upper extremities, the epidermis is dry and shining and there is evident loss of elasticity of the skin. The mucous membranes of the nose and throat as well as the ocular conjunctivæ are thickened. The ears are large, and the lobules hypertrophied and pendulous.

Sensibility as measured by the æsthesiometer was as follows:—Thumb, 1st and 2nd fingers of left hand, 1½; 3rd finger, 2; 4th finger, 2; 5th finger, 5; thenar eminences, 3; left palm, 6; right palm, 4; right fingers, 1½; right forearm in front, 15; left forearm in front, 14; right arm in front, 16; left arm in front, 17; posterior surfaces of hands and forearms, 0; posterior surface of left arm, 23; posterior surface of right arm, 30; cheeks, 13; forehead, 12; right thigh in front, 25; left thigh in front, 22; elsewhere in lower extremities, 0.

For temperature during period of residence in hospital see chart page 83.

6.—Æt. 20; a stunted, emaciated boy from Han-yang district; resides in Hankow, and gains his living by begging. Was driven from his father's house on account of his inability to work. States that there are 2,000 people in his native place, and he has seen 3 lepers there, but never associated with them. No family history of leprosy. Disease began 8 years ago, while he was engaged in tending cattle with a neighbouring farmer, and first attacked his right arm, right thigh and face; after a short interval the anæsthesia appeared on his left extremities. Flexion of the fingers of the right hand, and inability to close the eyelids began 4 years ago, and the former has annually increased in severity. Flexion of the fingers of the left hand commenced 2 years since.

The patient cannot raise his upper lip, distend his cheeks or wrinkle his nose or forehead. The right hand is extremely emaciated and clawlike, and the fingers can only be moved at the metacarpo-phalangeal joints. The fingers of the left hand are flexed at the first phalangeal joint, and they can be bent backwards a long way at the metacarpal joint, but the lateral movements are destroyed. The thenar and hypothenar eminences are wasted. The right extensors of the fingers are inactive to the galvanic current, but the right flexors and left flexors and extensors of fingers contract feebly. The muscles of the upper arms contract freely although the limbs are greatly emaciated. The right gluteus, the hamstrings and left vastus are decidedly weaker than those of the opposite sides respectively. Below the knee there is no answer to the current. The hair of the scalp is normal; that of the eyebrows and eyelashes fell out 4 years ago. Never had any hair on the pubis; sexual organs small, and he never experienced sexual desires. The patient's intellect was such that it was impossible to take the sensibility of his skin with any degree of accuracy. For his temperature see chart page 84.

7.—*Æt.* 32; a mandarin's servant, residing in Nuchang; married and has 1 child, 5 months old. Father's younger brother died of leprosy after an illness of 10 years. His own 2 brothers and a sister are free from numbness. The disease began 8 years ago with the appearance of a red anæsthetic patch over the back and left thigh, and at the same time numbness of the right little finger and inner side of hand was experienced. For 3 years there was no farther progress, but since then, the anæsthesia has involved the whole of the extremities, face and greater portion of the trunk. The emaciation of the right hand has been most marked within the last 15 months, and throughout that period he has been very subject to twitches and pains in the extremities, especially in the right forearm and left leg. He has suffered from ague, and has been very subject to spermatorrhœa, but has otherwise enjoyed good health. Although he has never lost his appetite he has become weak and emaciated since the onset of his present malady. He lives on rice and vegetables but generally eats 2 ounces of pork daily.

The patient is anæmic. The hair of the scalp and eyebrows has not fallen. There are various scattered patches exactly like those of *eczema marginatum*, the centre of each patch looking healthy. Ecthymatous pustules are scattered over the legs. The right thenar and hypothenar eminences are wasted; there is a hollow over the abductor indicis and first interosseous space; the inner side of the hand and the ring and little fingers are insensible to the current; the latter 2 fingers are one-third flexed. The right forearm is 1 inch less in circumference than the left, the upper arms are equal in size. He cannot wrinkle his forehead, or frown; cannot raise his upper lip or draw the mouth to the right, but he can jerk it to the left with the assistance of the platysma chiefly. In projecting the jaw, it is jerked to the right. Vermicular movements and twitches are visible in the lower portion of the forehead and in the lips. He says his tongue is also numb, and he cannot bend it to touch upper prolabium. The fauces and pharynx are congested, and there are several button shaped elevations on the latter. The muscles of the face, especially those of left side, respond feebly to the current.

The anæsthesia was as follows:—Palms of hands, 9; right thenar eminence, 7; left thenar eminence, 5; right hypothenar, 0; right ring and little fingers, 0; right middle and ring fingers, 3; right thumb, 7; left fingers, 3; left thumb, 4; right forearm, 30; left forearm, 32; right arm in front, 10; left arm in front, 11; right back of hand, 15; left back of hand, 0; posterior surface of right forearm, 30; posterior surface of left forearm, 32; posterior surface of right arm, 30; posterior surface of left arm, 34; over right cheek, 14; over left cheek, 12; forehead, 11.

At the date of admission, August 26th, his temperature was 99° at 6 P.M.; and afterwards at 9 A.M., 98.2°; at 6 P.M., 98.6°; 97.8, and 98° on the 28th, when patient returned home.

8.—*Æt.* 32; a labourer from the district of Hwampi; unmarried; father died of a disease accompanied over several years by cough and spitting of blood; mother alive and healthy; one sister also healthy. There are no other lepers in his village, but he says he has seen them in some of the neighbouring villages. He does not know of the existence of the disease among his ancestors. He is extremely poor, and lives entirely on vegetables and rice. The disease began 4 years ago with twitching followed by numbness, first in the inferior extremities, and then in the arms, accompanied by shedding of eyebrows, eyelashes and of the hair over the pubis; the ring and little fingers of the left hand also became flexed about the same date. Two years ago he lost most of the hair of the scalp. In the left hand the thenar and hypothenar eminences are wasted, and there is a deep hollow over the abductor indicis. In the right hand the hypothenar is wasted. The muscles throughout the upper extremities respond to galvanism, but the deltoids and extensors

*of the fingers, especially on the left side, act feebly. Below the knee the right gastrocnemius vibrates somewhat, but elsewhere there is no movement under the current. There is flattening over the vasti, and no movement when the current is passed. The glutei are also wasted, especially the left. The movements of the forehead, eyelids and mouth are greatly impaired. The spleen is enlarged, reaching a hand's breadth beyond the ribs.*

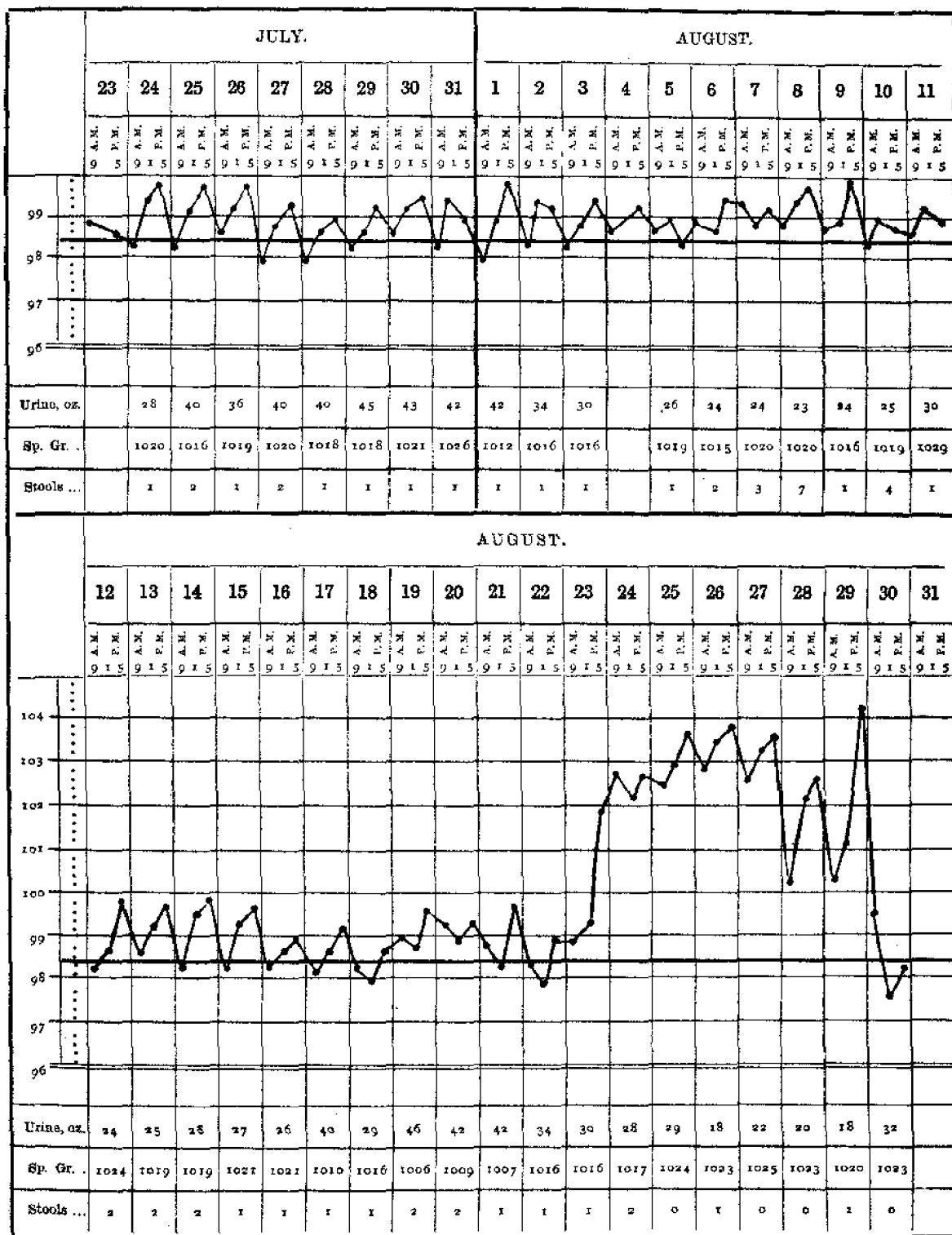
The sensibility of the skin was as follows:—Left palm, back of left forearm, lower extremities from below middle of thigh, 0; right palm, 8; thumb and two outer fingers, 2; little and ring fingers, 0; middle of front of forearms, 25; of right arm, 28; of left arm, 31; back of right forearm, 28; of right arm, 25; of left arm, 30; right cheek, 12; left cheek, 15; forehead, 15.

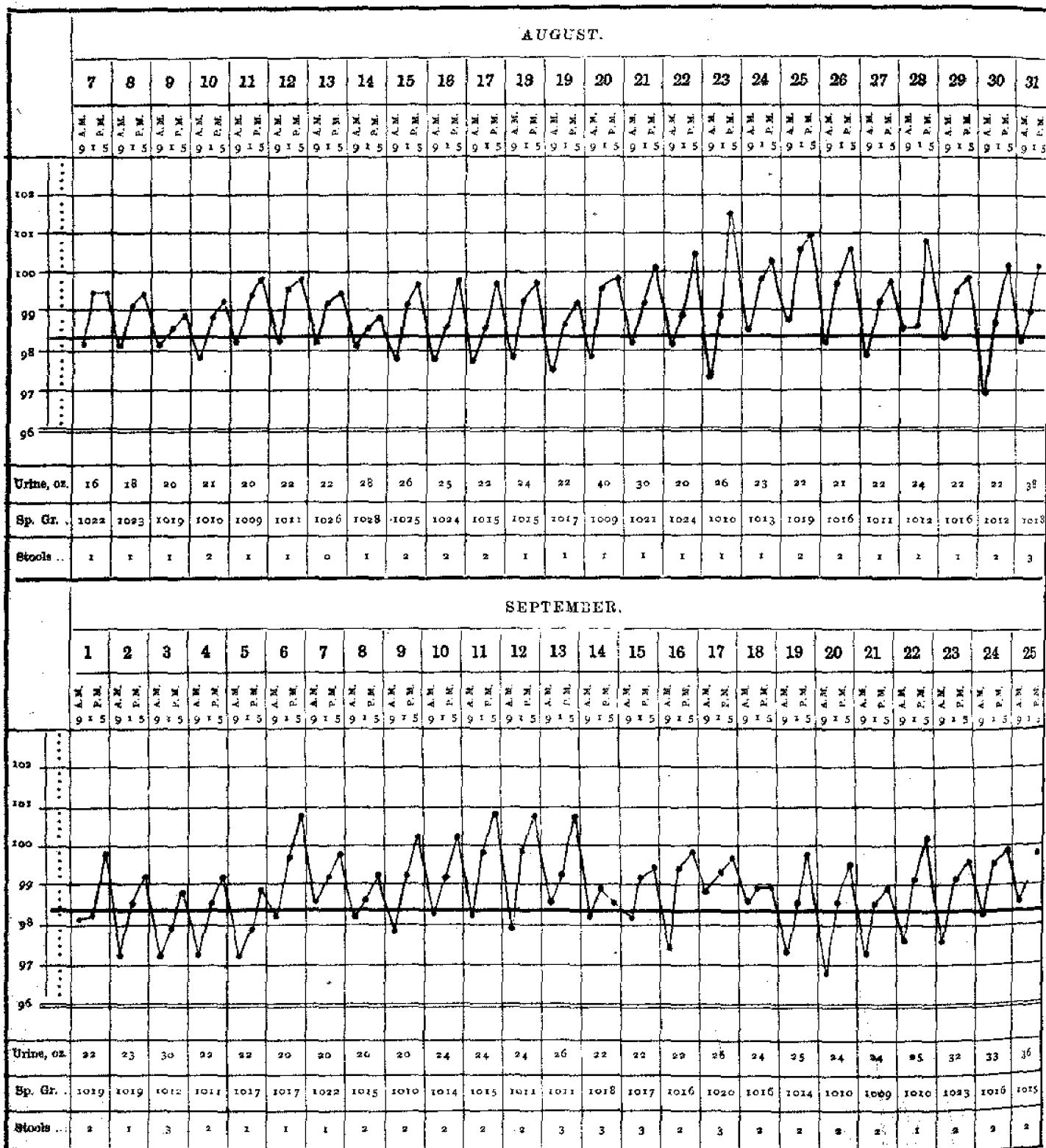
The patient remained in hospital from July 23rd till August 12th. The temperature during that period will be found on the chart, page 85.

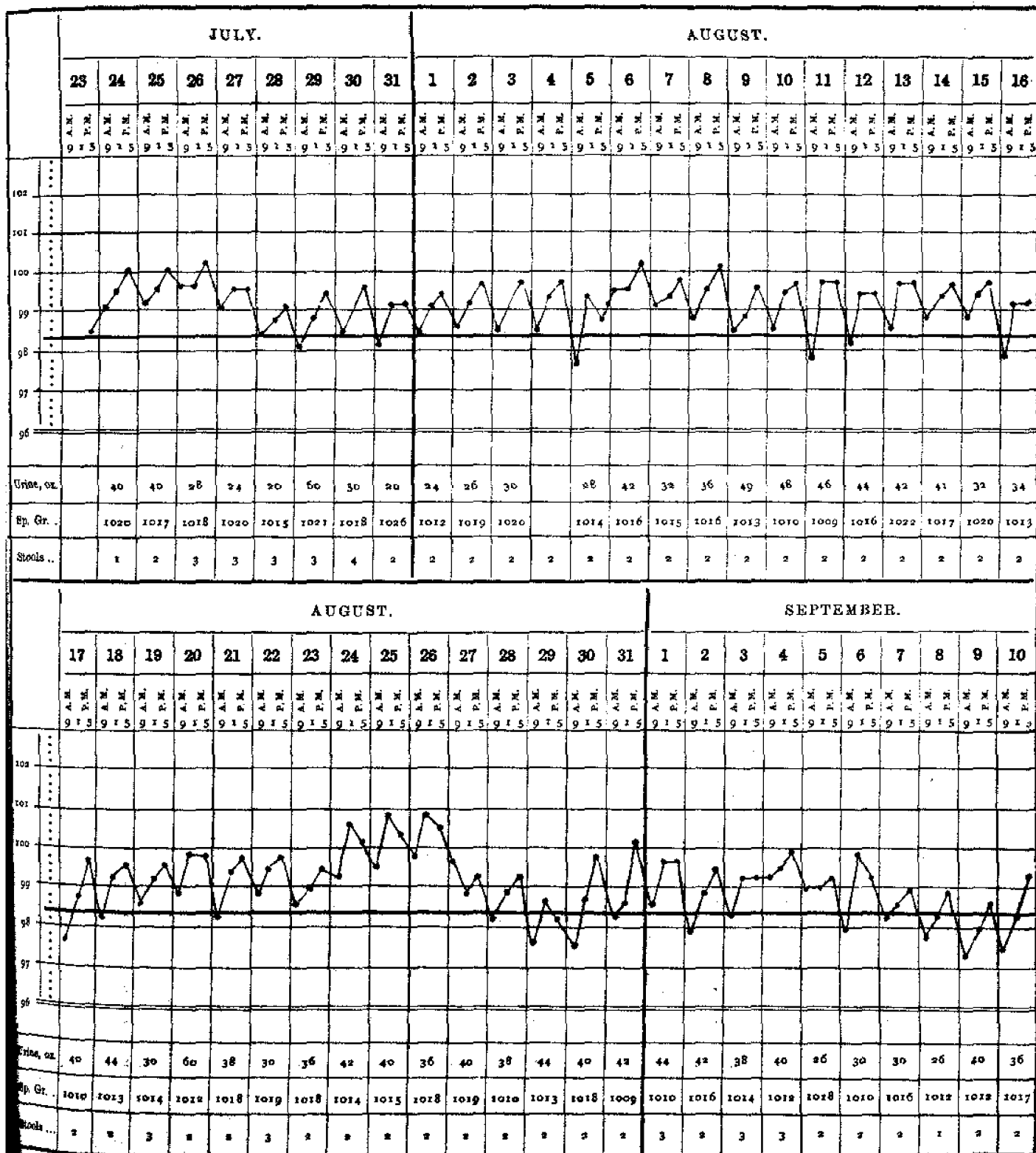
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DIAGRAMS showing the Temperature, taken in axilla, in three cases of Anæsthetic Leprosy.

No. 5.







*J.—Dr. SCOTT'S Report on the Health of Swatow for the half year ended  
30th September, 1872.*

The following Table indicates the diseases which have come under my notice among foreigners during the half year.

	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	TOTAL.
<b>A.—ZYMOTIC DISEASES.</b>							
<b>I. Miasmatic Diseases:—</b>	Cases.	Cases.	Cases.	Cases.	Cases.	Cases.	Cases.
Diarrhoea, . . . . .	22	10	10	9	17	2	70
Dysentery, . . . . .	1	—	1	2	2	4	10
Intermittent Fever, . . . . .	14	10	14	12	23	16	89
Typhoid Fever, . . . . .	—	—	1	—	—	—	1
Continued Fever, . . . . .	—	—	—	—	—	1	1
Cholera Biliosa, . . . . .	—	1	—	—	1	—	2
Cholera Spasmodica, . . . . .	—	—	—	3	—	—	3
Tonsillitis, . . . . .	4	—	—	—	—	—	4
Boils, . . . . .	2	2	2	3	5	—	14
Ophthalmia, . . . . .	—	—	—	—	2	1	3
Small-pox, . . . . .	—	1	1	—	—	—	2
Influenza, . . . . .	—	—	2	2	—	3	7
<b>II. Euthetic Diseases:—</b>							
General Syphilis, . . . . .	2	2	—	1	—	—	5
Bubo, . . . . .	3	7	2	—	3	2	17
Hard Chancre, . . . . .	5	—	—	—	3	1	9
Soft Chancre, . . . . .	2	8	1	4	2	1	18
Sloughing Chancre, . . . . .	1	2	—	—	—	—	3
Syphilitic Periostitis, . . . . .	2	1	—	—	1	1	5
Syphilitic Ulcer of Leg, . . . . .	1	2	—	—	3	—	6
Syphilitic Rheumatism, . . . . .	4	3	3	2	3	6	21
Syphilitic Warts, . . . . .	1	—	—	—	—	—	1
Syphilitic Condyloma, . . . . .	1	—	—	—	—	—	1
Syphilitic Ulceration of Throat, . . . . .	—	2	1	1	1	—	5
Syphilitic Eruptions, . . . . .	—	1	—	—	—	—	1
Syphilitic Ulceration of Mouth, . . . . .	—	—	—	—	1	—	1
Phimosis, . . . . .	—	1	—	—	—	—	1
Paraphimosis, . . . . .	1	—	—	—	—	—	1
Gonorrhoea, . . . . .	9	7	2	3	9	5	35
Chordea, . . . . .	3	—	—	—	1	—	4
Epididymitis, . . . . .	—	1	1	—	—	—	2
Stricture, . . . . .	—	1	1	2	1	1	6
Fistula in Perineo, . . . . .	—	—	—	1	2	—	3
<b>III. Dietic Diseases:—</b>							
Scurvy, . . . . .	1	—	—	—	—	—	1
<b>IV. Parasitic Diseases:—</b>							
Tape Worm, . . . . .	1	—	1	—	—	—	2
Round Worm, . . . . .	1	—	—	—	—	—	1
Scabies, . . . . .	1	—	—	—	—	—	1
<b>B.—CONSTITUTIONAL DISEASES.</b>							
<b>I. Diathetic Diseases:—</b>							
Gouty Conjunctivitis, . . . . .	1	1	—	—	—	—	2
Asthma, . . . . .	1	—	—	—	—	—	1
Acute Rheumatism, . . . . .	1	—	—	—	—	—	1
<b>II. Tubercular Diseases:—</b>							
Phthisis Pulmonalis, . . . . .	—	1	—	—	—	—	1

	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	TOTAL.
<i>C.—LOCAL DISEASES.</i>							
<i>I. Diseases of the Nervous System:—</i>	Cases.	Cases.	Cases.	Cases.	Cases.	Cases.	Cases.
Neuralgia—Facial, . . . . .	4	—	—	—	1	—	5
Neuralgia—Intestinal, . . . . .	1	—	—	—	—	—	1
Neuralgia of Pectoral Muscles, . . . . .	—	—	—	—	—	1	1
Spinal Irritation, . . . . .	—	—	—	—	1	—	1
Lumbago, . . . . .	—	—	—	—	1	—	1
Sciatica, . . . . .	—	—	—	—	1	—	1
Paraplegia, . . . . .	—	1	—	—	—	—	1
Otitis, . . . . .	—	—	—	—	—	1	1
<i>II. Diseases of the Circulatory System:—</i>							
Varix, . . . . .	—	1	—	—	—	1	2
<i>III. Diseases of the Respiratory System:—</i>							
Acute Laryngitis, . . . . .	—	1	—	—	—	—	1
Bronchitis, . . . . .	—	—	—	1	—	—	1
Croup, . . . . .	—	—	—	—	—	1	1
<i>IV. Diseases of the Digestive System:—</i>							
Colic, . . . . .	1	1	—	—	—	—	2
Chronic Gastritis, . . . . .	1	1	—	—	—	—	2
Piles, . . . . .	2	—	—	—	—	1	3
Congestion of Liver, . . . . .	1	—	2	4	5	2	14
Dyspepsia, . . . . .	3	—	—	1	3	—	7
Inguinal Hernia, . . . . .	—	1	1	1	—	—	3
Hepatitis, . . . . .	—	1	1	1	—	—	3
<i>V. Diseases of the Urinary System:—</i>							
Enlarged Prostate, . . . . .	—	1	—	—	—	—	1
Retention of Urine, . . . . .	—	—	—	—	—	1	1
<i>VI. Diseases of the Generative System:—</i>							
Hydrocele, . . . . .	—	—	1	—	—	—	1
Spermatorrhœa, . . . . .	—	—	—	—	—	1	1
<i>VIII. Diseases of the Integumentary System:—</i>							
Paronychia, . . . . .	1	—	—	—	2	—	3
Abscess, . . . . .	1	—	—	—	—	—	1
Ulcer, . . . . .	1	—	1	—	—	—	2
Herpes, . . . . .	—	1	—	—	—	—	1
Impetigo, . . . . .	—	—	—	—	—	1	1
<i>IX. Diseases of the Eye:—</i>							
Ulcer of Cornea, . . . . .	—	—	—	—	1	—	1
<i>D.—DEVELOPMENTAL DISEASES.</i>							
<i>II. Of Women:—</i>							
Dysmenorrhœa, . . . . .	1	—	—	—	—	1	2
<i>E.—LESIONS FROM VIOLENCE TENDING TO SUDDEN DEATH.</i>							
<i>I. Accident:—</i>							
Fracture of Left Radius, . . . . .	1	—	—	—	—	—	1
" " Right Humerus, . . . . .	—	—	1	—	—	—	1
Sprain of Knee, . . . . .	—	—	1	—	—	—	1
Sunstroke, . . . . .	—	—	—	1	1	—	2
Dislocation of Right Humerus, . . . . .	—	—	—	—	—	1	1

In reviewing this table it will be seen at once that the miasmatic and enthetic orders of disease are those which are most frequently met with.

1. *Diarrhœa* was unusually prevalent, but generally yielded to treatment, except where it depended on some diseased state of the liver; and these cases are of the most troublesome character. Often all ordinary means fail to check this form, and the patient runs down fast from copious watery evacuations. If



the liver be enlarged or inflamed I always take away a little blood either by local leeching or cupping, and instead of using astringents I gently exhibit mercury in the form of blue pill, or grey powder with bismuth, 2 grains of the former with 5 of the latter, to be taken every 2 hours in milk.

2. The same remarks apply to dysentery. I have seldom any trouble with this disease except when it is associated with deranged liver, as it often is. The treatment of dysentery is so well understood that it is needless to say anything about it here, but in those cases where the disease has been preceded, or is accompanied by hepatic complications, attention must be paid to the state of the liver and not exclusively to the bowels. In such cases mercury generally tells well. The usual antidysenteric powder in use here consists of 5 grains each of quinine, tannic acid and Dover's powder, taken every four hours. In cases complicated with diseased liver the addition of  $2\frac{1}{2}$  grains of calomel acts very well.

3. *Boils*, coming under the head of miasmatic diseases, deserve some notice, not only from the frequency of their occurrence, but also from their severity and the amount of constitutional disturbance which attends them. I report 14 cases, but they are only the cases which put themselves into my hands for treatment, many others having occurred which did not come directly under my notice. These 14 cases were of such severity as completely to lay the sufferers up. A boil usually begins as a hard itching knot felt deep under the skin and areolar tissue. This knot soon becomes red, and the itching gives place to pain on pressure. Then the areolar tissue around becomes much inflamed, and a large space round the knot becomes swollen and oedematous; in many cases the lymphatics become inflamed and can be traced from the boil along the part of the body which it attacks, particularly in the lower limbs. I have often seen a large bubo caused by a boil on the lower part of the leg or on the foot, and in these cases the lymphatics are easily followed from the seat of the boil to the bubo. Great pain is experienced at this stage. Suppuration goes on very slowly, a week often intervening between this stage and the bursting of the boil. When the boil does burst it is only the beginning of the trouble that has set in, for, for a long time, pieces of dead areolar tissue continue to come away, and when the slough is quite separated an unhealthy intractable ulcer is often left behind, which takes weeks to heal, and which always leaves a scar. I have known such an ulcer to continue in an open unhealthy state for 6 weeks, giving great pain and inconvenience. The general character of these boils closely resembles anthrax, except that they come in crops of hundreds instead of the usual solitary anthrax. The constitutional disturbance is very great. Their position is various; they usually attack the head, buttocks and lower limbs, but they are found everywhere. In one case last summer the patient had as many as 58 boils of various sizes all over his body at one time. Another had 18, all of great size, one of them measuring from healthy skin to healthy skin, 7 inches by  $5\frac{1}{2}$ , and leaving a scar 1 inch in diameter. The suffering was intense and the disease really became a serious one when it assumed this character. I have tried almost every kind of treatment and with much the same effect. Poultices seem rather to promote the further formation of boils, though they certainly give a great amount of relief to the particular boil to which they are applied. Support by adhesive plaster is also useful to individual boils, giving relief and seeming to hasten the suppurative process and the ultimate discharge of the core. I have tried leeches but I have found that each leech-bite is very apt to turn into a troublesome boil. I have given alkalies in deference to John HUNTER. Iodide of potassium, sarsaparilla and liquor potassæ are useless. Sir Thomas WATSON's remedy, sulphate of quinine with dilute sulphuric acid, has failed in my hands. However, I have no doubt that this disease should be treated constitutionally, and that a generous regimen, with malt liquor and tonics are the best remedies. We are badly in want of more knowledge of the origin and pathology of this complaint, as here in the south of China it is a common and hitherto very unmanageable disease.

4. I have to report only 2 cases of small-pox. Both were severe, and I treated both on the carbolic acid plan internally, and painted the faces with a solution of nitrate of silver. There was no pyrexia after the third day, and recovery was complete without any trace of pitting.

5. *Enthetic Diseases* are certainly the most severe, if not the most important that we meet with here. Every form of syphilis comes under observation. We have sloughing ulceration of the tonsils and fauces,

and pericostitic affections of the tibia, rupial ulceration all over the body, and occasionally total destruction of some organ from sloughing phagedæna. Such cases are doubtless too common to require much comment, but as some very severe examples have come under my care lately, it may be interesting to report them here.

1.—A. B.; suffered for years from slight ulceration of the right tonsil, which, though it improved from time to time, never got totally well. For some months there was gradual loss of voice, and examination by the laryngoscope showed that there was considerable disease of the vocal cords. I had no suspicion of syphilis up to this time, when the disease of the vocal cords and a peculiar snail track appearance on the back of the throat made me enquire particularly. I found that he had had a chancre 12 years previously not followed by secondary symptoms; he had not again contracted syphilis, and there was now no sign of a chancre nor any other syphilitic taint except the disease of the throat which was unmistakeably syphilitic. After the loss of voice the ulceration of the throat became rapidly worse and gradually involved not only the right tonsil, but also the left, the roof of the mouth and the pharynx, and threatened to spread farther down the throat. The ulceration was so extensive that it implicated all the parts visible without the use of the laryngoscope (except the tongue and hard palate) and there was so much difficulty about introducing the mirror that I was obliged to refrain from using the instrument. Deglutition was very difficult. The right tonsil sloughed so deeply that when the slough came away the internal carotid was almost bare and could be seen pulsating. I found that the local application of almost pure carbolic acid to the parts did more to help the separation of the sloughs and to set up a healthy action than any other form of caustic. The internal use of opiates in large doses and also of iodide of potassium proved very useful. I began the administration of iodide of potassium in 5 grain doses 3 times daily, and gradually increased the dose 2 grains every day till I got as far as 60 grains 3 times daily. At this large dose I continued for some weeks, during which time the patient, who had in the commencement become much emaciated, began gradually to pull up flesh, and the iodide, instead of having any depressing influence on him, acted as a tonic. While under treatment he became stouter than he had ever been before. It is interesting to remark for what a length of time syphilis may be latent in the system. For 12 years this man had contracted no venereal disease, and for years he was under my observation, during which time he never showed any sign of syphilis except slight ulceration of the throat, when suddenly the disease showed itself in unmistakeable colours.

2.—C. D.; came under my care in May on account of a large sloughing phagedæna of the penis. He had contracted a chancre some months previously in Shanghai. The chancre was on the inside of the prepuce, which becoming thickened as the inflammation increased gradually induced phimosis. The patient continued to work as long as he could, but was obliged at last to give in. Meanwhile the prepuce had been allowed to remain uncut, and the chancre sloughed its way through, setting up an unhealthy action all over the prepuce. He shortly after this left Shanghai as a seaman in a most wretched condition. When I saw him the whole of the prepuce and glans penis and the greater part of the penis formed one large phagedænic mass. Energetic use of nitric acid to the sloughs, and the plentiful administration of opium, for a time checked the progress of the disease, but for weeks there was no marked improvement. Various poultices and washes were used without effect, but here again the use of pure carbolic acid to the sloughs proved of great value. Improvement continued for some time but was only temporary, for deep inflammation set in and threatened great destruction. This time the inflammation spread down the penis and below the scrotum, and finally a scrotal fistula was formed on the right side, and the urine passed through this opening for weeks. After this a healthy action once more set in, and the sore healing gradually the fistula closed, and there was marked daily improvement till he got quite well. I mean of course that the parts healed completely, but there was great destruction and loss of tissue, as he preserved only a remnant of the penis not more than an inch in length. The only constitutional treatment in this case consisted of chlorate of potash and bark, and a generous diet with wine. Pain being sometimes intense, plenty of opium was given, and this obviously acted beneficially on the phagedæna.

3.—E. F., came under my care for periostitis of the tibia and os frontis, and rapidly improved under small doses of iodide of potassium. In a short time I was about to send him out of hospital when he told

me that he was suffering from a slight gonorrhœa which he wished to have cured before he went away. The discharge was thin and white and had come on since the improvement in the periostitis. One half of the glans penis had been cut off, and the patient explained that he had contracted syphilis some 18 months previously in Japan, where, on the appearance of the chancre, his medical adviser had told him that if he had the sore cut off at once he would be saved from any secondary troubles. He submitted to this operation, and remained in Japan till the wound healed. He afterwards found his way to Shanghai where shortly after his arrival secondary symptoms broke out and he passed through the phases of secondary syphilis and was treated for them. He stated that since he contracted the chancre in Japan he had never had sexual intercourse. As the discharge had no gonorrhœal characters I simply gave him an injection of tannin and opium, and waited. The urethral discharge ceased in a few days, but as soon as it stopped the right knee joint became inflamed, and shortly afterwards the right elbow joint became affected. The iodide was again commenced, and leeches applied to the inflamed joints, and at the same time nourishing food and 20 ozs. of port wine per day were given, and in a short time he recovered the use of the affected limbs, but the urethral discharge at once set in worse than before. Though I had a presentiment against again checking it I yielded to his earnest entreaty and again let him use the injection which at once before stopped it. In a few days he complained that his throat was sore and that he could not eat without great difficulty. On examination I found that the tonsils and pharynx were much inflamed, and the larynx also showed much syphilitic disease. All this time he was fast losing flesh, and his weight was reduced from 130 lbs., which it was on admission to hospital, to 93 lbs. I was therefore afraid to use mercury, lest I should reduce him still more. With this disease of the throat he got a very bad cough and expectorated much muco-purulent matter, and though there were no very definite signs, I had no doubt that there was syphilitic deposit in the lungs. To add to his distress, nearly all the joints in his body became again inflamed and he was unable to move. I again trusted to the iodide, and gave it this time in 30 grain doses 3 times daily in combination with chlorate of potash, and had a tablespoonful of cod liver oil rubbed into his chest twice a day. Under this treatment and the use of strong soups and as much port wine as he could take, he, after a hard struggle, recovered for a little. His improvement was only very temporary, for in a few days the discharge, which with his recovery had recommenced, suddenly disappeared of its own accord, and violent diarrhœa was the immediate sequel, which nearly carried him off. However, still continuing the potassium, astringent injections per rectum checked the purging, and he recovered sufficiently to start for England. I have since learnt from his friends that the diarrhœa returned with violence during the voyage home and that he was almost dead on his arrival.

4.—G. H.; applied to me nearly 3 years ago on account of a scaly eruption on his back and chest. He was a young, strong and healthy-looking man, and had 2 years previously contracted what he called a soft chancre. There was no trace of a previous chancre on the penis, but the glands in the groins were enlarged and hard, and there was also a large bunch of indurated glands on each side of the neck. The eruption was decidedly syphilitic. He had been under treatment already for nearly 2 years, but had never taken mercury. I proposed a lengthened course of the mineral, to which he agreed. He weighed 142 lbs. I ordered him 5 grs. of PLUMMER'S pill 3 times daily, and did not see him for some weeks, during which time he continued to take the mercurial. When I saw him again he expressed himself as much pleased with the progress he had made. The glands were becoming soft and the eruption was fading. He continued to take the same medicine for 4 months during which time he was never salivated, nor in any way inconvenienced, and he increased in weight to 163 lbs. The eruption had quite disappeared, and though the glands still remained enlarged, they too had much decreased in size. He thought he was well, and wished to stop the treatment, so for months I saw nothing of him. Early this year I was again consulted by him, when I learned that shortly after leaving off the mercury the eruption once more appeared and he became worse than ever. His body was now covered with rupial ulcers which he ascribed to my mercurial treatment, as he believed that this was the mercury "coming out all over him." He was put on 5 grains of iodide of potassium 3 times daily, no attention being paid to the ulcers beyond keeping them clean. His weight at

the commencement of the treatment was 135 lbs. I gradually increased the doses of potassium, adding every week 5 grains to each dose till he got up to 60 grs. 3 times a day, which he continued for 2 months. All the ulcers had healed perfectly by this time, the glands all over the body had resumed their normal size and their induration had quite left them, while he had increased in weight to 165 lbs., and now declared he had never felt better in his life. I then decreased the doses of potassium as I had increased them till I got down once more to 5 grs. and then left them off. He was altogether 8 months under treatment.

6.—There were only 2 deaths among foreigners during the half year. One was a Malay sailor who died suddenly. Cause of death doubtful as there was no postmortem. The other was a case of phthisis which came here from Shanghai in a dying state.

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K.—Dr. Alexander JAMIESON's Report on the Health of Shanghai for the half year ended 30th September, 1872.

In the following pages there will be found such a general view of the sanitary condition of Shanghai during the half year, as can be derived from the records of the public services and of the General Hospital, and from my personal experience. I have to thank the gentlemen in whose keeping the more or less public records are, for the free access to them that I have enjoyed. It is to be hoped that before long some means will be adopted whereby the results of private practice may be laid before the profession, but at present the labour of compilation, together with various other reasons, prevents the publication of much that would be in the highest degree useful to the medical body in China. Meanwhile, although a great deal of available material is lost, there is a considerable common stock to which all the local practitioners contribute, but it must be remembered in reading such a report as the present that the facts adduced to support any given proposition by no means exhaust the store that under more favourable circumstances might be drawn upon. On the other hand it is possible that a more extended register of observations might necessitate modifications in some of the views expressed; but this would doubtless be the case even if the whole field of private and public medical practice in a place so small, comparatively speaking, as Shanghai, could be laid under contribution. Trust must therefore be placed in time, and the readers of these reports must be content to wait for the accumulated observations of several years before they attempt to formulise the general laws affecting health and disease in China which it is the object of this publication to throw into relief.

Mr. C. DEIGHTON-BRAYSHER, Assistant Harbour Master at this port, has been good enough to furnish me with the following note upon the meteorological statistics of the summer six months of the years 1867 to 1872. Taken in connexion with the figures published at page 77 of the last issue of these Reports, it forms a complete comparative register for six years.

## 1867.

MONTHS.	Prevailing Winds.	Number of Gales.	Number of Hours Rain.	Highest Range of Barometer.	Lowest Range of Barometer.	Highest Range of Thermometer.	Lowest Range of Thermometer.
April, .....	S.E., N.E.	0	52	inches. 30.24	inches. 29.78	° 83	° 45
May, .....	S.E.	2	39	30.16	29.67	79	56
June, .....	N.N.E., S.S.E.	1	113	29.99	29.68	95	66
July, .....	S.W.	1	88	29.97	29.64	98	71
August, .....	Southerly.	4	52	29.98	29.59	97	75
September, .....	N.E.	3	58	30.24	29.82	90	67

## 1868.

April, .....	Variable.	1	89	30.30	29.71	87	41
May, .....	N.E., E., S.E.	3	74	30.07	29.65	89	58
June, .....	S.E.	3	117	30.06	29.66	89	53
July, .....	E.S.E.	2	89	29.96	29.34	98	70
August, .....	S.E.	3	36	30.06	29.62	93	74
September, .....	N.E.	2	51	30.23	29.90	84	66

1869.

MONTHS.	Prevailing Winds.	Number of Gales.	Number of Hours Rain.	Highest Range of Barometer.	Lowest Range of Barometer.	Highest Range of Thermometer.	Lowest Range of Thermometer.
				inches.	inches.	°	°
April, .....	N.E., S.E.	6	109	30.39	29.87	69	41
May, .....	S.E.	4	41	30.28	29.61	83	53
June, .....	S.E.	4	130	30.03	29.62	83	64
July, .....	S.W.	1	100	30.00	29.65	98	69
August, .....	S.W., N.E.	2	107	30.04	29.75	95	74
September, .....	N.E.	3	107	30.24	29.46	85	68

1870.

April, .....	Variable.	1	83	30.34	29.70	75	43
May, .....	S.E., N.E.	2	69	30.18	29.83	82	52
June, .....	S.W., S.E.	1	102	30.12	29.73	95	67
July, .....	S.E., N.E.	1	75	30.00	29.75	97	74
August, .....	S.E.	0	85	30.11	29.76	92	72
September, .....	N.E.	1	56	30.20	29.87	88	62

1871.

April, .....	S.E., N.E.	0	30	30.39	29.81	87	40
May, .....	S.E.	2	36	30.24	29.73	93	59
June, .....	S.E.	2	30	30.16	29.84	99	62
July, .....	S.E., S.W.	0	8	30.13	29.80	95	75
August, .....	Southerly	2	18	30.16	29.79	96	73
September, .....	S.E., N.E.	1	14	30.28	30.02	93	72

1872.

April, .....	S.S.E.	1	37	30.46	29.85	81	45
May, .....	E.S.E.	2	19	30.29	29.80	82	56
June, .....	N.N.E.	5	104	30.18	29.87	82	64
July, .....	E.S.E., N.E.	0	11	30.08	29.69	98	77
August, .....	E.S.E.	2	33	30.08	29.63	92	75
September, .....	N.E.	1	3	30.28	30.00	88	67

The above observations were taken at Woosung. The tables shew that the summer season of 1872 resembled that of 1871 more closely than that of any previous year. The number of hours rain in the summer of 1871 was unusually low, being only 136, while in 1869 it reached 594. As to gales, only 6 were experienced during the same period of 1870, as against 20 in 1869. These were the lowest and highest numbers respectively. The highest register of the barometer was 30.46 inches in April 1872, and the lowest was 29.34 inches observed during a typhoon in July 1868. The maximum thermometer register in the shade was 99° F. in June 1871, and the lowest was 40° F. in April of the same year.

It was only during the first three weeks of July that the heat of last season was at all trying. The nights were then insufferably hot, and very many of the native as well as foreign residents, but especially foreign children "stared aghast at sleep." Everybody suffered more or less from prickly heat, due to the over abundance of perspiration, and super-excretion of solids by the skin. Two facts relating to prickly heat are worth observing, namely that it never attacks the respiratory or digestive mucous tract, and that it usually or invariably disappears on the supervention of an acute disease. The latter circumstance is no doubt the foundation for the popular belief that prickly heat is "healthy."

The high temperature of the settlement as compared with the suburbs is very noticeable during summer evening drives when, on entering any one of the chief avenues to town, the freshness of the open country is exchanged for the stifling atmosphere of the streets. A portion of this difference is due to the stagnation of air caused by the covering in of the Chinese quarters by matting, so that even with the same thermometrical reading, the streets are far more suffocating than the suburban roads. Notwithstanding this, we doubtless owe a great deal to the artificial shelter provided in many parts of the settlement during the period that the sun is above the horizon. Indeed the farther the plan of covering in

the streets during summer is carried the better it will be for the community, and herein lies one, but perhaps the only, advantage to be derived from the narrow lanes of native cities. After minute inquiries I have reason to believe that very few, if any, Chinese die from the direct effects of the sun. For some days in every summer the temperature in Shanghai rises to or above  $100^{\circ}$  F., yet we have never to chronicle results at all similar to those which follow a like temperature in other parts of the world. I may take New York as a fair example inasmuch as the inhabitants are accustomed to great heat in summer and adapt their clothing &c. to the severity of the season. The summer of 1872 was exceptionally hot in the Eastern states, but especially so in New York where the mercury stood at or above  $100^{\circ}$  F. on the 2nd, 3rd and 4th of July, and reached  $102^{\circ}$  F. on the 2nd. As a consequence nearly 1,000 cases of sunstroke were reported during the 3 days mentioned, while the hospitals were crowded with cases of dysentery and diarrhoea. Horses fell dead in the streets, and "scarcely one half the troops that started for a parade in honour of the anniversary of the Declaration of Independence, returned to the armouries with their comrades, being overcome by the heat, and compelled to leave the ranks."\* There can, however, be little doubt that the injudicious consumption of alcoholic liquors had a great deal to do with the mortality from heat apoplexy, as I shall shew to have most probably been the case in the instances of sunstroke which occurred in Shanghai.

Numerous and accurate reports of the postmortem appearances after solar apoplexy are much to be desired. I am unfortunately unable to give more than one for this period.

M. S., sailor aged 17, exposed himself to the sun on the 5th August, and complained of headache and general malaise during the following night. At noon next day he was delirious, with a temperature in the axilla of  $103^{\circ}$  F., and subsultus. His condition remained unchanged until 4 A.M. on the morning of the 7th when he became conscious, his temperature having fallen to  $102.2^{\circ}$  F. At noon he was delirious, with a temperature of  $103.2^{\circ}$  F., and from this point the temperature steadily rose until 4 P.M. on the 8th (4th day) when the thermometer in the axilla marked  $108^{\circ}$  F., and the boy died. On examination, the arachnoid was found opaque, with much serum beneath it on the convex surface of the brain, but there was no effusion at the base. The pia mater was greatly engorged, and a firm clot (*postmortem*) occluded the right internal carotid. The brain substance was healthy, and the ventricles contained little or no serum. The left lung was excessively congested, blood pouring from it on section. The right lung was healthy. The heart also was healthy and the cavities empty.

In sunstroke and solar apoplexy there is always hyperpyrexia. The temperature of the surface may rise suddenly to  $110^{\circ}$  F., and in cases of rapid death the blood is probably heated above that undetermined point between  $104^{\circ}$  and  $122^{\circ}$  F., at which, according to KÜHNLE, protoplasm undergoes "heat-stiffening." Dr. Horatio Wood jun. (*Philadelphia Medical Times*, and *Lancet* vol. ii. of 1872, page 129) has proved that myosin coagulates between  $108^{\circ}$  and  $115^{\circ}$  F.; and Dr. C. J. B. WILLIAMS asserts that a temperature of  $104^{\circ}$  arrests the vital movements of the "sarcophytes". Wood experimented with an apparatus by which hot water was made to circulate round the heads of various animals. A brain temperature of  $114^{\circ}$  was rapidly fatal to a cat. The phenomena may be explained either by supposing a paralysis of the heart due to the "heat-stiffening" of KÜHNLE, or a profound alteration in the blood giving rise to effusions into the ventricles and at the base of the brain.

In previous reports I noticed the diminution in the number of cases of malignant remittent fever, but the season now under review has supplied many instances of the disease. I will refer to two cases, each of which has its point of interest. In the first, the patient, a man aged 35, had been subject to intermittent fever for many years. During two months the fever had put on a remittent character, but yielded partially to quinine in large doses. A fortnight before observations commenced it became continued, with marked afternoon exacerbations, and delirium with sleeplessness at night. The patient was in the habit of taking quinine "by the spoonful." At noon on the first day of treatment he was deeply cinchonised, and muttering; there were besides constant starting of the tendons and occasional floccitatio. He could be roused to consciousness, but he did not, or did not care to, recognise any body. The temperature under his tongue was  $107^{\circ}$  F. He was ordered 15 minims of turpentine every hour, with wine and milk ad libitum. At 9 P.M. the temperature had fallen to  $104^{\circ}$  F., and as he seemed drowsy he was

\* *Times* Correspondent.

ordered not to be disturbed. During the night he had 7 stools, but slept fairly. At 6 A.M. next morning the temperature was still  $104^{\circ}$ , and the turpentine was recommenced, but was now given every second hour. At noon and at 6 P.M. the temperature was  $102^{\circ}$ , and as there was some strangury, the turpentine was stopped and fluid extract of bark in drachm doses was substituted. Improvement was thereafter steady, and on the sixth day the temperature was slightly below  $99^{\circ}$ . The patient was soon afterwards sent to England, as he would doubtless speedily have relapsed. One case is insufficient to prove the efficacy of a certain line of treatment; and I must confess that in a second and third where quinine had failed and I hoped much from turpentine I was altogether disappointed. One of the latter cases was fatal. Notwithstanding this, the account given above seems to me to justify the adoption of a like treatment in apparently desperate cases where quinine has proved ineffectual or hurtful.

Remittent fever is frequently so intractable and occasionally so deadly that I make no apology for giving the following instructive case in full detail. I call it remittent, although I am not quite sure what it was. Dr. SOMERVILLE (see page 58) would no doubt, and justly, refer it to his class of "Mixed Fevers." The absence of any sign of decomposition 15 hours after death, under a temperature ranging between  $83.5^{\circ}$  and  $86.5^{\circ}$  F., excludes rapidly fatal typhus, and the fact that the patient was lodged in a tolerably cool room and was not exposed to the direct rays of the sun excludes sun stroke.

A. L. aged 31, was said to have been occasionally intemperate, but was certainly not a drunkard. He had frequently suffered from tertian ague which always yielded readily to quinine.

11th August 1872.—What he considered a paroxysm of ague was ushered in at 11.30 A.M. by an epileptiform convulsion of short duration; the cold stage followed and the paroxysm proceeded regularly.

12th.—According to his own account he was "perfectly well"; his afternoon temperature was  $99.5^{\circ}$  F.; he had taken 5 grains of quinine every four hours since the previous evening.

13th.—At 6.45 P.M., after a day of complete intermission, he was suddenly seized with violent delirium and spectral illusions. Temperature  $102.4^{\circ}$ ; bowels open, pulse 80, full and soft. Half an hour afterwards he was still wandering, but answered intelligently when his attention was fixed for a moment. There was no rigor, and his temperature continuing unchanged, he took 10 grains of quinine at 9 P.M.

14th.—8 A.M., temperature  $101.2^{\circ}$ ; he complained of spectral illusions, but knew that they were illusions. In the forenoon he wrote as follows quite steadily and correctly:—

"Dear Sir—Please call at once if convenient, as I feel very bad about my head. Yours &c.———" \*

"14/8/72."

At noon his temperature was  $100.4^{\circ}$ . At 6 P.M. his tongue was brown, dry and cracked, but was protruded steadily; his pulse was running, his face was livid and set in a grin; he was lying on a couch muttering and "fly-catching". While I was taking his temperature, the thermometer having been perhaps a minute in his axilla when it marked  $106^{\circ}$  F., he was seized with an access of maniacal delirium which terminated in about 5 minutes by a violent epileptiform convulsion, at the close of which he remained comatose, and died in 10 minutes. His temperature just before death was of course much higher than  $106^{\circ}$ , but I was unable to take it immediately after death.

*Postmortem Examination*, 15 hours after death:—Rigor mortis unusually marked; no evidence of decomposition although the temperature of the air during the night ranged between  $83.5^{\circ}$  and  $86.5^{\circ}$ . There was no eruption on the skin, and the body was loaded with fat.

*Head*.—Arachnoid thickened and opaque especially over the cerebellum. Very extensive subarachnoid effusion on the surface and at the base of the brain. Pia mater much injected. Sinuses full of blood. Convexity of anterior lobes much shrunken. No inflammation or congestion of cerebral or cerebellar substance. Lateral ventricles distended with clear serum.

*Spinal Cord*.—Not examined; much blood flowed out of the canal.

*Thorax*.—Lungs healthy. Heart large and flabby with much fat on the surface and in its substance. Cavities empty. All the valves healthy.

*Abdomen*.—Liver considerably enlarged and very soft; evidence of fatty degeneration on section; old adhesions to parietal peritoneum on surface of right lobe. Spleen small but very friable. Kidneys enlarged and slightly congested.†

\* I enter into these minutiae to shew how deceptive for purposes of prognosis the course of the disease was.

† The above history and postmortem appearances may advantageously be placed side by side with the details of Dr. POUGADE's important case in which no postmortem examination was made (see page 59).



This case would seem to support LEBERT's hypothesis that under certain unknown conditions an animal poison is developed in the course of acute diseases, and produces paralysis of the nervous centres. Here there was serious cerebral mischief, and the spinal and ganglionic heat-producing system was deprived of the regulative control of the brain. Compare TSCHESCHSCHIN's experiment of dividing the pons at its junction with the medulla oblongata in animals (*Zur Lehre von der thierischen Wärme* in REICHERT and Du Bois REYMOND's *Archiv für Anatomie und Physiologie*, 1866.) The immediate results of the operation were an acceleration of the cardiac contractions and respiratory movements, and a rapidly rising temperature. On the other hand, the late period at which decomposition set in may remove the case I have detailed from the group of those dying from the nerve centres with excessive temperature. The termination ought perhaps to be referred to cerebral exhaustion, the heat-regulating centres partaking of the general condition of the brain.

*Typhoid Fever* in Shanghai presents, so far as my experience goes, no special features. In two severe cases, convalescence was established on the 25th and 26th day respectively. In one, the highest temperature reached was 103.4° F. on the 15th day, and on the 26th day the temperature suddenly dropped from 101.2° to normal, at which it remained. A fortnight afterwards there was a relapse, and the previous history was almost exactly reproduced, convalescence being finally established on the 24th day from the second access. In the second case the highest temperature reached was 105° F. on the evening of the 9th day. On the 23rd day the evening temperature under the tongue was 99.5°. Next morning it was 97.6°, from which it rose to normal during the afternoon, and remained there. In neither of these cases was any treatment worth mentioning adopted except the liberal use of wine and milk, and due attention to hygienic conditions.

*Typhus* is luckily rare, as when it occurs it is almost uniformly fatal.

Among the smaller but not unimportant summer ailments boils stand preeminent. These sometimes reach a very considerable size, and when left to themselves slowly suppurate, discharging their contents through two or more apertures, the sloughs separating after a long interval and frequently leaving a circular or elliptical ulcer with foul surface and undermined edges, which on healing invariably produces a depressed scar. Such boils are really small carbuncles, and are attended by a corresponding amount of constitutional disturbance. In one very bad case observed last summer I obtained the best results from crucial incisions, but the operation is apparently so formidable and is really so painful that I could not persuade the patient to submit to it except for two of the worst boils. These, however, had healed, and with but little disfigurement, long before the remainder of the crop in other parts of the body had disappeared. Later on I found that finely powdered camphor applied to the ulcer which is always left behind, promotes rapid healing. I am inclined to think that this is a Chinese remedy; at all events it was a patient who suggested it to me. The general symptoms must be treated with tonics and a generous diet.

*Dengue*, although so widely prevalent at Amoy in August and September (see page 11), was not observed here. The infrequency of direct and rapid communication between the two ports probably accounts for our immunity.

The following case of cerebral abscess, although valueless for any light it can throw upon the diseases peculiar to China as modified by the climate, is so interesting in itself that I give it a place here.

A. B. aged 34, a man of the most temperate habits, suffered from chronic dysentery some years ago, and ever since had had very little control over the sphincter ani. He improved under the use of strychnia, but was so sensitive to the poisonous action of the drug that  $\frac{1}{15}$  grain produced slight tremor.\* He continued from time to time to take strychnia, but left it off finally because he fancied that it had induced an attack of hæmoptysis. He had fallen from a pony on the morning of the day on which the bleeding appeared, but had escaped with a slight bruise of the left arm on which he alighted. Hardly any blood was lost from the lungs, and the patient himself felt that it was quite unnecessary to lie up. There was a small and sharply circumscribed area of dulness at the apex of the right lung. The heart's

\* "The muscles of the lower jaw, which are the first to be affected in tetanus from disease, are generally the last to be affected by strychnia." TAYLOR, *Principles and Practice of Medical Jurisprudence* p. 331.

action was feeble, but I was particularly struck by the difference between the hardly audible apex beat and the hammering radial pulse which, even when the patient appeared to be perfectly well, never exceeded 45 in frequency. It was, however, at all times quite regular.

22nd June, 1872.—The patient had for three days suffered from severe headache which he attributed to indigestion. He had therefore rigorously starved himself, at the same time taking large quantities of purgative medicine. At 8 P.M. he was dull and listless, very irritable when roused, and answering indifferently that he was "all right" or that he was "in great pain" when he was asked how he felt. Ordered champagne and essence of beef. During the following two days his morning temperature in the axilla was 97.5° F., and his evening temperature 96° F. Pulse 35 to 38, regular. In the forenoons he was cheerful, but in the afternoons he became heavy, and incoherent in his answers, complaining merely of slight headache. The cardiac impulse was so feeble that in spite of the apparently periodic character of his malady, quinine except in minute doses was contraindicated. He therefore took the most powerful medicinal diffusible stimulants as well as champagne, milk, &c. It was extremely difficult to persuade him to swallow anything. The pupils were normal, there were no muscular spasms, no deafness, no photophobia, no paralysis of either sensation or motion, no tingling in the extremities, no nausea or constipation, no *tache cérébrale*, no strabismus, the headache was general, not unilateral, and he had never had any disease of the ear. His urine was free from albumen. Moreover he had never suffered from syphilis.

25th and 26th.—Morning temperature 96.5°. Evening, 96°. Whatever question is asked, he pauses to collect his thoughts before answering, but always answers to the purpose.

27th and 28th.—Sleepless. Very minute doses of opium overcame this, and on the morning of the 29th he appeared much better; temperature 97°, less headache, and in the afternoon, although the temperature fell half a degree, there was no collapse such as there had hitherto been daily. All the symptoms abated during the following four days; the morning temperature rising to 97.7°, and the afternoon to 97.5°. As the weather was very unfavourable in Shanghai, he was sent to Chefoo, where he arrived on the 6th July. Immediately on arrival he was seen by Dr. MYERS who found his temperature 96.5°, and pulse 45.

6th July.\*—Complained of agonising headache. The left pupil was normal, the right contracted. In the evening he was better and quite cheerful.

7th at 3 A.M.—During a fit of vomiting he suddenly put his hand to his head and cried out "it's all over now," and immediately became insensible, in which condition he remained until 7 A.M. when he died.

*Postmortem Examination*, 7 hours after death. The body was muscular and not emaciated.

*Head*.—Meninges blue from intense venous congestion. Right hemisphere of the brain healthy. Left hemisphere soft and very highly congested. Superior and a little anterior to the lateral ventricle there was found the cavity of an abscess communicating with the ventricle, into which it had discharged its contents—about 3 drachms. The cavity was about the size of a walnut.

*Spinal Cord*.—Not examined.

*Thorax*.—Right lung somewhat congested, with slight deposit at apex. Left healthy. Heart large and flabby with much fat externally, but no apparent degeneration of substance. Valves healthy. Large clot in right ventricle invested with a well formed membrane, and evidently of no very recent origin.

*Abdomen*.—Liver weighed 61 oz. Spleen enlarged and very friable. Kidneys healthy. Mesenteric glands much enlarged, hard and gritty. "Tubercle" was freely deposited over the entire length of the small intestine, and also, but to a less extent, over the large. At intervals of 12 or 15 inches inflamed patches were observed, but there was no ulceration, not even in the rectum although the lower 6 inches had evidently been long the seat of inflammation.

The postmortem appearances suggest embolism of the middle cerebral artery on the left side. Sir Wm. GULL and Mr. SUTTON in their article on Abscess of the Brain in REYNOLDS'S *System of Medicine*, (vol. ii, 2nd Ed. p. 568,) remark on the comparative rarity of the disease, and state that "it falls to the lot of no man to 'see a great many cases.'" The minuteness with which I have detailed the above case will therefore be readily excused. Apart from this, the symptoms are well worthy of study. It was easy to see that there was some cerebral mischief, but I believe it was impossible to diagnose abscess. Thus, the authors I have quoted above say "The accession of acute symptoms appears in many cases to correspond with the commencement of acute inflammatory softening, either primarily in healthy brain, or secondarily around an 'old abscess. Then the skin becomes hot, the pulse quick, tongue dry and parched; great prostration,

\* For what immediately follows I am indebted to Dr. MYERS.

"drowsiness and stupor set in,—such symptoms as resemble continued fever, and have been mistaken for it in some cases." In the instance before me the abnormally low temperature excluded a continued or malarious fever, as it also seemed to exclude acute inflammatory mischief in the brain. For want of a recognised formula to express the symptoms, and having regard to the daily afternoon collapse, I called the case one of "malarial asthenia" when forwarding a written account to Dr. MYERS. The patient's irritability prevented rectal temperatures from being taken, and of course it is possible that they might have been high; but the fact remains that the skin was unnaturally cool. The temperature in cerebral disease may obviously therefore prove misleading. WEST (*On some Disorders of the Nervous System in Childhood*, p. 108) gives the case of a strumous girl, aged 7, in whom aphasia, ushered in by excessive restlessness and irritability, followed recovery from an attack of phlyctenular ophthalmia. "From time to time she moaned as if in pain; her general condition seemed one of extreme depression, sordes collecting on her teeth and lips, and now and then she refused, rather than seemed unable, to swallow. During this time her temperature varied without obvious cause, rising to 103°, sinking for short periods even down to 91°." This girl recovered—temporarily at any rate. Dr. ALBUTT contributed a case of acute local meningo-cerebritis to the *Lancet* of the 3rd August 1872, in which the slowness of the pulse—60—was one of the danger signals. But here there was a temperature varying between 102° and 104°. ABERCROMBIE and GENDRIN have collected 34 cases of cerebral abscess. In only one is the temperature noticed, and in that case it was high. Without attempting a rigorous analysis I may state in general terms that in all there were, differently grouped, at least five out of the following list of symptoms:—Intense headache; vomiting; constipation; vertigo; unilateral convulsions; paralysis; coma; strabismus; dilatation of pupils; blindness; aphasia; deafness; involuntary defecation and micturition; spasm of the muscles of the neck; pulse varying from 50 to 120, rising as death approached; purulent discharge from the ear. GENDRIN, translating ABERCROMBIE (page 154) forty years ago, makes him say\* "Dans les cas où la cérébrite se termine par suppuration, on trouve la même variation dans les symptômes que dans les autres modes de terminaison..... On a quelquefois trouvé un abcès dans le cerveau sans qu'aucun symptôme ait indiqué son existence." It is but too true that our power of diagnosing cerebral abscess is still as questionable as it was in ABERCROMBIE's days. NIEMEYER, (*Lehrbuch der Speciellen Pathologie und Therapie*, 2er Band, p. 247) says "..... da abgekapselte Herde die circulation in Schädel oft nicht wesentlich beeinträchtigen, so erklärt sich zunächst, dass man zuweilen bei Sectionen Gehirnabscesse findet, ohne dass während des Lebens auch nur der Verdacht eines Gehirnleidens vorgelegen hätte.—Aber auch solche Fälle von Gehirnabscessen, welche bis auf den nachtheiligen Einfluss, den sie auf die gesamte Ernährung des Gehirns ausüben, ohne Symptome verlaufen, werden durch eine Berücksichtigung jener Verhältnisse verständlich. Es gehört keineswegs zu den Seltenheiten, dass bei einem Kranken ein dumpfer Kopfschmerz, eine wachsende Apathie, eine Abnahme des Denkvermögens bis zum Blödsinn, eine Abstumpfung der Sinne, eine zunehmende Schwäche und Unsicherheit der Bewegungen, zwar das Vorhandensein eines schweren Gehirnleidens ausser Zweifel stellen, aber für die Diagnose eines Gehirnabscesses keinen Anhalt gewähren..... Irrthümer, welche leider weit seltener als glänzend bestätigte Diagnosen in die Oeffentlichkeit gelangen, können nur bei unklaren Köpfen und bei solchen, welche mit der Physiologie und Pathologie des Gehirns und mit der Diagnostik der Gehirnkrankheiten nicht hinlänglich vertraut sind, Befremden erwecken."†

\* I have not the original within reach.

† "Inasmuch as encapsulated abscesses frequently do not seriously interfere with the intracranial circulation, it is clearly intelligible that they should sometimes be found postmortem, although during life there may not have been even a suspicion of brain disease. Moreover those cases of cerebral abscess which, except for the hurtful influence exerted on the entire nutrition of the brain, progress without symptoms, are thus rendered comprehensible. It happens by no means seldom that a patient suffers from dull headache, increasing apathy, diminution of the power of thought reaching imbecility, blunting of the senses, increasing weakness and uncertainty of motion, which certainly place the existence of serious brain mischief beyond doubt, but give no support to a diagnosis of cerebral abscess. Errors, which unluckily are far seldomer published than are brilliantly confirmed diagnoses, can arouse surprise only among the ignorant and among those who are imperfectly acquainted with the physiology and pathology of the brain and with the diagnosis of cerebral diseases."

It is unfortunate that so little has been said about the temperature in cerebral abscess. That serious intracranial mischief may be attended by an abnormally low temperature is proved not only by my case, but by one published in the *Archives Générales de Médecine* for June 1872, p. 681. Here the symptoms were paralysis of the pharyngeal and laryngeal muscles, left hemiplegia, constipation and involuntary micturition. The temperature in the axilla was 36.6° C. (= 97.88° F.) The postmortem examination revealed occlusion of the left vertebral artery from the point where it pierced the dura mater to within 1.5 centimètre of the basilar trunk, and also obliteration of the left inferior cerebellar and all its branches. The left lobe of the cerebellum and the structures on a level with the floor of the fourth ventricle were soft and granular. As this sheet is passing through the press, I find that Dr. NIEDER (*Lancet* of 8th February 1873, p. 203) reports a case of traumatic softening of the substance of the cord at the level of the first and second dorsal vertebrae, in which the axillary temperature fell to 81° F., and although there was complete paralysis of the lower extremities, of the chest and of the greater part of the trunk, consciousness was perfect. Death occurred on the 11th day with a temperature of 80.6°. It was pointed out that similar lesions in other cases were followed by rising of the temperature. The conclusion from all this obviously is that, so far as we know at present, the indications of the thermometer in lesions of the central nervous system are absolutely uncertain.

The subjoined table is condensed from the records of the Shanghai General Hospital. Following my practice in previous reports I omit all patients but Europeans, and I italicise those fatal cases in which death resulted from disease presumably referable to climatic or local causes or to the action of the sun aided by personal habits :—

MONTHS.	ADMISSIONS.	DEATHS.	CAUSE OF DEATH.	DEATHS FROM SPECIAL CLASSES OF DISEASE.
April, .....	28	7	{ Disease of Brain (1), Phthisis (2), Pneumonia (1), Aneurism (1), Tubercular Bronchitis (1), Bright's Disease (1), .....	0
May, .....	27	5	{ Typhus (2), Phthisis (1), Tubercular Bronchitis (1), Emphysema (1), .....	2 or 7.4% on Admissions
June, .....	27	3	{ Contusion of Brain (1), Heart Disease (1), Typhus (1), .....	1 or 3.7% "
July, .....	36	7	{ Sunstroke (5), Phthisis (1), Scorbutus (1), .....	5 or 13.9% "
August, .....	34	5	{ Dysentery (2), Spinal Arachnitis (1), Remittent Fever (1), Bright's Disease (1), .....	4 or 11.8% "
September, ..	24	5	{ Dysentery (2), Sunstroke (1), Tubercular Bronchitis (1), Disease of Heart (1), .....	3 or 12.5% "
	176	32		

During the summer months, therefore, the ratio of deaths to admissions was 18.2 per cent, while in the previous half year the ratio was 8.4 per cent. Wide variations must be expected in the death rate, but this difference is very remarkable. It is obviously due to the number of cases of sunstroke and malignant fevers which succumb during the hot weather, many of the patients being brought moribund to the hospital. As noted in my previous reports, the number of deaths placed opposite each month are deaths out of the admissions in that month. Thus, a patient suffering from brachio-cephalic aneurism was admitted on the 22nd April, and discharged some little while afterwards relieved of his urgent symptoms. After several readmissions and discharges, he was finally taken in on the 12th October, and died the following day. His death appears to swell the April mortality. So with a case of emphysema which though admitted in May, did not prove fatal until September. In April there were actually 5 deaths; in May 4; in June 4; in July 7; in August 4, and in September 6. Out of the 176 admissions 15 were for dysentery (8.5 per cent); phthisis and remittent fever each accounted for 11, or 6.3 per cent; hepatitis for 10, or 5.7 per cent; intermittent fever for 6, or 3.4 per cent; typhus fever and chronic diarrhoea accounted each for 4 cases, or 2.3 per

cent, while typhoid and acute diarrhoea furnished each 3 cases, or 1.7 per cent. It is further noticeable that 9 cases of remittent fever were admitted in August, and 7 cases of dysentery in September. Dysentery was not represented in April or May; no case of chronic diarrhoea appeared during July, August or September; acute diarrhoea was admitted only in July and August, typhoid only in August and September; intermittent fever, always of a mild character when purely intermittent, was absent during May, June and September; and curiously enough the 4 cases of typhus occurred in May and June before the onset of hot weather. It is interesting to compare this analysis with the meteorological statistics on page 93, but I must leave each of my readers to do this for himself. Phthisis, which is always imported,\* was distributed pretty evenly over the six months, September alone shewing no admission for this disease. Venereal diseases of various kinds and of varying severity gave 25 cases, or 14.2 per cent on the total of admissions. It is to be expected that in a large seaport town where there is as yet no control exerted over the spread of enthetic disease, venereal should swell the hospital returns, and form a large share of the work encountered in private practice. On a former occasion I drew attention to the local conditions which limit the prevalence of this disease among residents in spite of the want of any public restrictive measures. These conditions need now be merely referred to, and even in the hospital cases which presumably are not so influenced, few of those now recorded were of a rapidly destructive character. It must indeed be allowed that venereal as observed in Shanghai very seldom realises the sensational descriptions given of its ravages by many naval and military surgeons who have written the history of syphilis in the east. Bearing in mind the fact that the worst cases are sent to hospital, the following analysis will bear out my assertion. The 25 cases admitted during the six months were distributed as follows:—

Gonorrhoea, .....	2 cases.	Primary Syphilis, .....	1 case.	Syphilitic Periostitis, .....	1 case.
Prostatitis, .....	1 "	Secondary, .....	3 "	Chanoroid, .....	2 "
Orchitis, .....	3 "	Syphilitic Iritis, .....	1 "	Phagedenia, .....	2 "
Bubo, .....	4 "	" Rheumatism, .....	1 "		
Gonorrhoeal Rheumatism, .....	1 "	" Ulcer, .....	3 "		

One case of epilepsy, in a German sailor aged 36, was admitted. Small-pox disappeared in April, 2 cases having presented themselves in that month.

In the police return of native deaths I find one fatal case of small-pox occurring on the 3rd April, and a second on the 16th July. Variola is in fact never altogether absent from the native quarters, and will not be so until stringent measures are adopted for the prevention of inoculation. The vaccination dispensaries are month by month becoming more crowded, but the impression they make upon the vast number of children demanding protection from small-pox is necessarily very slight. We shall doubtless have to wait for the growth of a more general opinion in favour of vaccination, but meanwhile it is incumbent on the Municipal Councils in their capacity of Boards of Health to enforce as strictly as possible the provisions of the Taotai's manifesto against infant inoculation to which I referred in my last report. The deaths from small-pox among natives during the period under notice were doubtless more than 2, for in every respect the subjoined table, compiled from the police returns, is open to criticism. It will be useful, notwithstanding, if it affords anything

\* Dr. REID (p. 77) shews that phthisis is common among the Chinese inhabiting the malarious districts in the neighbourhood of Hankow. This disposes of the opinion that there is an antagonism between malarious poisoning and tuberculosis. Yet WALSH, following TRIEB, WÄRMER, WOLSKEL and BOURN, says that "*malaria appears to generate a condition of blood, even when the poison fails to produce any of its ordinary effects, almost absolutely incompatible with vigour of the tuberculous 'diathesis'*" (*Diseases of the Lungs*, p. 474) and CÆLUS (III. xxii) says "*opus est si vires patiuntur longa navigatione, oculi mutatione, sic ut densius quam id est ex quo discedit seger petatur: ideoque aptissime Alexandriam ex Italia itur*". I know of no instance of tubercular phthisis declaring itself in a foreigner residing here, and during nine months' daily attendance upon a large number of out-door patients at the Gutzlaff Hospital I have not seen a case among natives. So far, Shanghai experience supports the theory of antagonism. Of course this does not apply to phthisis florida or galloping consumption, the result of catarrhal pneumonia with cheesy infiltration, which may, and does, occur here as well as elsewhere.

like the ratio in which deaths from different classes of disease occurred. The French settlement is not included in these figures :—

DISEASE. *	APRIL.		MAY.		JUNE.		JULY.		AUGUST.		SEPTEMBER.		TOTAL.
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	
1. 風寒 <i>Feng-han</i> , .....	—	1	—	—	—	—	—	—	—	—	—	—	1
2. 天花 <i>T'ien-hua</i> , .....	—	1	—	—	—	—	1	—	—	—	—	—	2
3. 發痧 <i>Fa-sha</i> , .....	1	—	1	—	—	—	4	4	3	1	1	—	15
4. 急病 <i>Chi-ping</i> , .....	8	1	1	—	9	2	—	1	5	1	2	1	31
5. 頭風 <i>T'ou-feng</i> , any disease whose most prominent symptom is intense headache...	—	1	—	—	—	—	—	—	—	—	—	—	1
6. 傷寒 <i>Shang-han</i> , .....	1	—	5	—	3	3	8	3	3	3	3	3	35
7. 老病 <i>Lao-ping</i> , .....	1	4	3	2	5	5	4	—	1	2	4	2	33
8. 生產 <i>Sheng-ch'an</i> , .....	—	—	—	—	—	—	—	2	—	—	—	—	2
9. 驚風 <i>Ching-feng</i> , any disease in which convulsions occur .....	—	—	—	—	—	—	2	—	1	—	—	—	3
10. 肚痛 <i>Tu-t'ung</i> , abdominal pain, .....	—	—	—	—	—	—	1	—	1	—	—	—	2
11. 鼓脹 <i>Ku-chang</i> , .....	—	—	—	—	—	—	—	—	1	—	—	—	1
12. Suicide, .....	—	—	—	—	1	1	—	1	—	1	1	3	8
13. Accident, .....	—	—	—	—	1	—	—	—	—	—	1	—	2
14. Found Dead, .....	—	—	—	—	—	—	1	—	1	—	—	—	2
Not stated, .....	—	—	—	—	—	—	15	1	4	3	12	2	37
Total, .....	11	8	10	2	19	11	35	13	18	13	24	11	175

As to locality and age the deaths were distributed thus :—

	ENGLISH SETTLEMENT.	HONGKOW.	MALES.	FEMALES.	TOTAL.	LIMITS OF AGE.
April, .....	9	10	11	8	19	1 and 56
May, .....	9	3	10	2	12	8 and 54
June, .....	13	17	19	11	30	3 and 66
July, .....	31	17	35	13	48	1 and 77
August, .....	23	8	18	13	31	1 and 75
September, .....	20	15	24	11	35	2 and 71
	105	70	117	58	175	
	175		175			

The health of the Customs staff was as a rule good. Bilious diarrhoea, febricula from exposure to the sun, intermittent fever, usually of a very mild type, neuralgia and boils include all the diseases, of sufficient severity to cause absence from duty, which were observed among the members of the out-door staff. It is worthy of observation that venereal diseases are of extremely infrequent occurrence, and that unfitness for duty is in almost every instance due to causes encountered in the discharge of ordinary official work. The members of the in-door staff were likewise free from any serious disease connected with the climate. The English police force suffered comparatively little, a result due to the care taken in selecting the men, and to the exceptional amount of protection from sun and from the effects of heat which is provided for them. The sick list for the six months is made up of 4 cases of dyspepsia, 2 of sun malaise (trivial), 2

\* For an explanation of most of these quaint terms, see *Customs Medical Reports* No. 3, p. 82.

of diarrhoea, 1 of febricula, 1 of epilepsy, and 3 of various stages of syphilis. Besides these there were cases of catarrh, colic, local inflammation, &c. which hardly merit notice. The French police, out of a total strength of 47, had 19 men on the list. Of these 1 suffered from brachio-cephalic aneurism,\* 1 from pleurisy, 1 from articular rheumatism, 1 from intermittent fever, 1 from conjunctivitis, 1 from a fracture of the forearm, 2 from hepatitis, 2 from neuralgia, 3 from venereal, and 6 from colic. The case of aneurism was fatal, and one case of hepatitis which advanced to suppuration also succumbed, there being doubtless multiple abscesses, inasmuch as pus was discharged not only through an external opening made with caustic, but also into the lungs and intestine.

There was no case of serious illness among the children at the Eurasian school. Sudden changes of temperature were of course marked by coughs, colds and transitory attacks of conjunctivitis. Improvement is very noticeable in strumous children within a few weeks of their admission to this institution. A liberal and judicious dietary with cod liver oil and malt liquor when required, early hours, pure air and excellent sleeping accommodation, form such a contrast to the conditions under which the greater number of the children have previously lived that improved health is naturally to be expected as soon as they are brought under the new influences.

The following table gives, as closely as can be ascertained, the entire number of foreign burials during the summer six months, together with the causes of death when certified. The register is not absolutely perfect, but we may hope that for the future it will be at least reasonably accurate, as the English and French Municipal Councils have agreed upon a regulation by which burial will be refused in every case where a certificate of the cause of death is not produced. It may fairly be assumed meanwhile that the figures given below are not far from the truth.

ABSTRACT OF THE SHANGHAI BURIAL RETURNS FOR THE HALF YEAR ENDED 30TH SEPTEMBER, 1872.

DISEASES.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPTEMBER.	TOTAL.
Typhus Fever, . . . . .	1	1	3†	—	—	—	5
Remittent Fever, . . . . .	—	—	—	—	1‡	—	1
Dysentery, . . . . .	—	—	—	—	1	3	4
Infantile Cholera, . . . . .	—	1§f	—	1§f	—	—	2
Scorbutus, . . . . .	—	—	—	1	—	—	1
Phthisis, . . . . .	4	1	—	—	2	—	7
Emphysema of the Lungs, . . . . .	—	—	—	—	—	1	1
Tubercular Bronchitis, . . . . .	—	1	1	—	—	—	2
Disease of the Brain, . . . . .	1	—	—	—	—	—	1
Heat Apoplexy, . . . . .	—	—	—	9	1	—	10
Spinal Arachnitis, . . . . .	—	—	—	—	1	—	1
Delirium Tremens, . . . . .	1	—	—	—	—	—	1
Infantile Convulsions, . . . . .	1¶	—	—	1**f	1††	—	3
Cardiac Disease, . . . . .	—	—	—	1	—	1	2
Endocarditis, . . . . .	—	—	—	1	—	—	1
Pneumonia, . . . . .	1	—	—	—	—	—	1
Cirrhosis of the Liver, . . . . .	—	—	—	—	1	—	1
Hepatitis, . . . . .	—	—	—	1	—	—	1
Bright's Disease, . . . . .	1	1	—	1	—	1	4
Injury of the Brain, . . . . .	—	—	1	—	—	—	1
Drowned, . . . . .	—	—	—	—	3	1	4
Uncertified, . . . . .	2	1	—	3‡‡	2	1	9
Total,.....	12	6	5	19	13	8	63

\* Case referred to on page 99.

† 1 case was an adult female. ‡ For particulars of this case see page 95. § 3 months old. ¶ 8 months old.  
 ¶ 2 months old. \*\* 9 months old. †† 11 months old. ‡‡ Of these 1 was a female.

The burials therefore were 63 in number, and of these, 5 deaths occurred among females. If we exclude 5 deaths among infants under one year old, (2 males and 3 females) and 4 deaths by drowning, we shall obtain a mortality of 54 among a population of about 2,000. For the purpose of estimating the healthfulness or the reverse of the settlement during the summer we must exclude in addition the case of accidental injury to the brain, the 10 cases of heat apoplexy, the case of spinal arachnitis, and doubtless a considerable number out of the 9 uncertified deaths. With hardly an exception the deaths from heat apoplexy might with more correctness be classified as deaths from drink-poisoning. I use the clumsy expression "drink-poisoning" advisedly instead of "alcoholism" for the simple reason that alcohol is the least hurtful ingredient in the liquor sold in the grog-shops which crowd the disreputable quarters of the three settlements.\* Since the establishment of the Shanghai Temperance Society a great deal of fluent nonsense has been expended by the orators of the institution. Much of this may, by the curious in such matters, be found in a coagulated condition in the columns of the evening paper. Beyond the rich opportunity afforded for the development of the vice of hypocrisy, and the exhaustion of valuable energy in talk instead of in action, the society cannot as yet have done any harm. But as the vast majority of men will insist upon having stimulants in some form, the attention of the Temperance Society might advantageously be directed to the discouragement of the sale of poisonous liquor, by tracking the vendors and bringing them to punishment. If the society would further open rooms in two or three accessible places in the foreign quarter, and supply magazines and newspapers, with tea and coffee and biscuits, at a nominal charge, and undrugged beer and spirits at a moderate charge, it would prove of incalculable service to the sailors and other foreign street-wanderers, and the plan would, I have no doubt, be warmly supported by the foreign community. As "temperance" means nothing less than it does "total abstinence" the society, if it should see fit—which I do not in the least expect—to carry out my suggestion, need not even change its present sacramental name, although it would soon become in the truest sense, as far as sailors are concerned, a most efficient Board of Health.

By a careful analysis of the burial table the great majority of the deaths might on various pretexts be removed from consideration. But results so arrived at would be illusory, for the reasons fully set forth in my report for the half year ended 30th September 1871, page 36. The most that can be said with certainty is that our death rate, even during the most unfavourable season, is below that of many English cities. Only 2 adult females died during the period under review. There was no death from aneurism, unless some of the cases grouped under "Cardiac Disease" or some of those uncertified, may have been due to this affection.

Aneurism is comparatively so rare among the Chinese, that I may mention one abdominal aortic case now under my care at the Gutzlaff Hospital. The tumour is firm, elastic and immovable, about the size and shape of a lemon, and is situated below the renal arteries, extending at least to the origin of the inferior mesenteric, and involving the ovarian. The patient suffers much from constipation, and when this condition has lasted for 2 or 3 days the impulse of the tumour is visible on inspection. Pulsation is much diminished in the femorals. Auscultation reveals a single prolonged systolic murmur. The tumour was first observed 2 years ago, and it is only since then that constipation has been troublesome. Severe lumbar pain is occasionally, but rarely, felt. It is worthy of note that without any consequent derangement of the general health the catamenia have for the last 12 months become more and more scanty, and at present barely appear. Gentle laxatives with iodide of potassium and cod liver oil have materially increased the patient's comfort, but of course have had no effect on the tumour, which is now increasing more rapidly than before. This woman's age is only 30, but, as CAZALIS remarked long ago, "*on a toujours l'âge de ses artères.*"

Private practice is so widely distributed in Shanghai that an attempt to give an accurate picture of the condition of the community with regard to health during a period unmarked by any epidemic, would prove a failure. If from the total of 63 burials we subtract 30 deaths which occurred in the General Hospital, 4

\* "Gin" can be bought at various places in Hongkew for \$ 2 per dozen, bottles included. In the deadly mixture of sulphuric acid, kerosene oil and bang which can be sold for this price alcohol must count for very little. I am told that Hongkew gin is an excellent blistering fluid for horses.





But although everyday observation tends to strengthen the position of those who deprecate indiscriminate abuse of the Shanghai climate, there can be little doubt that the more than tropical heat of summer interferes with the growth and development of adolescents. Dr. RATTRAY has lately made a series of elaborate experiments under temperatures ranging between 55° and 82° F., the results of which have been laid before the Royal Society. The *Lancet* thus summarises the conclusions established:—

The primary effect of great changes of climate is on the circulation, the blood being drawn surfaceward by heat, and driven inward by cold. The secondary and local effect is an increase or decrease in the vascularity and functions of the various tissues and organs of the entire body—the external increasing under heat, the internal under cold, and vice versa. Hence in the tropics the vascularity of the adult lungs is reduced by an average of 12 or 13 fluid ounces; their spirometric measurement by an average of 23 cubic inches; their function by 18.43 per cent.—i.e. the use of 36.85 cubic feet less air daily, excretion of 1.84 oz. less carbon, and 6.57 per cent less of watery vapour. The nephritic vascularity and secretion are also reduced by 17.5 per cent, and those of the skin increased by 24 per cent. In unison with the respiration the circulation is more languid in the tropics, as indicated by the reduced (several beats) and perhaps less forcible pulse. The temperature of the surface, and probably that of the blood and body generally, on the other hand, rises about 2° F. under tropical heat.\* The organs and functions of animal, like those of vegetable, life are affected by great changes of climate, heat impairing the weight, strength and health—i.e. the physique—at all ages, and retarding growth in youth.

These observations were made with special reference to the naval service, and therefore Dr. RATTRAY thus sums up his argument:—"If we would produce strong, healthy, long lived officers and seamen fit for any work or climate, we should not send them unnecessarily to warm regions while as yet undeveloped lads." But they apply equally to civil life, and point out the imprudence of retaining children here for a longer time than is absolutely unavoidable, and of sending out young men who are still growing, to encounter the constant work of a Shanghai office and the vicissitudes of a Shanghai climate. That vital energy is depressed by prolonged residence here is proved practically by the fact well known to every local practitioner, that although people may keep well for an indefinite period, should they once become seriously ill it is almost impossible for them to convalesce here. After the severer forms of periodic or continued fever for example, a trip to Japan or to some other port is not only desirable but absolutely indispensable. It is certain that as local improvements progress, as the foreshore is abolished, and the low-lying land in the back parts of the settlements is filled up, the atmospheric conditions will undergo great and salutary changes. The great and progressive diminution in the frequency and severity of periodic fevers and dysentery since Municipal improvements have been boldly undertaken proves that our successors will be as much better off than we are as we are better off than those who preceded us by ten years. But, though we can thus limit the origin and spread of malaria, we shall always have to calculate upon summers most trying on the score of temperature alone. Hence, it is impossible that Shanghai can ever be a desirable residence for children or youths.

\* This I have after many trials failed to verify. My own temperature, under the tongue, was during the hottest part of last summer 99.4° to 99.8° F. During mild and cold weather it is persistently 99.2°.